

FIG 1

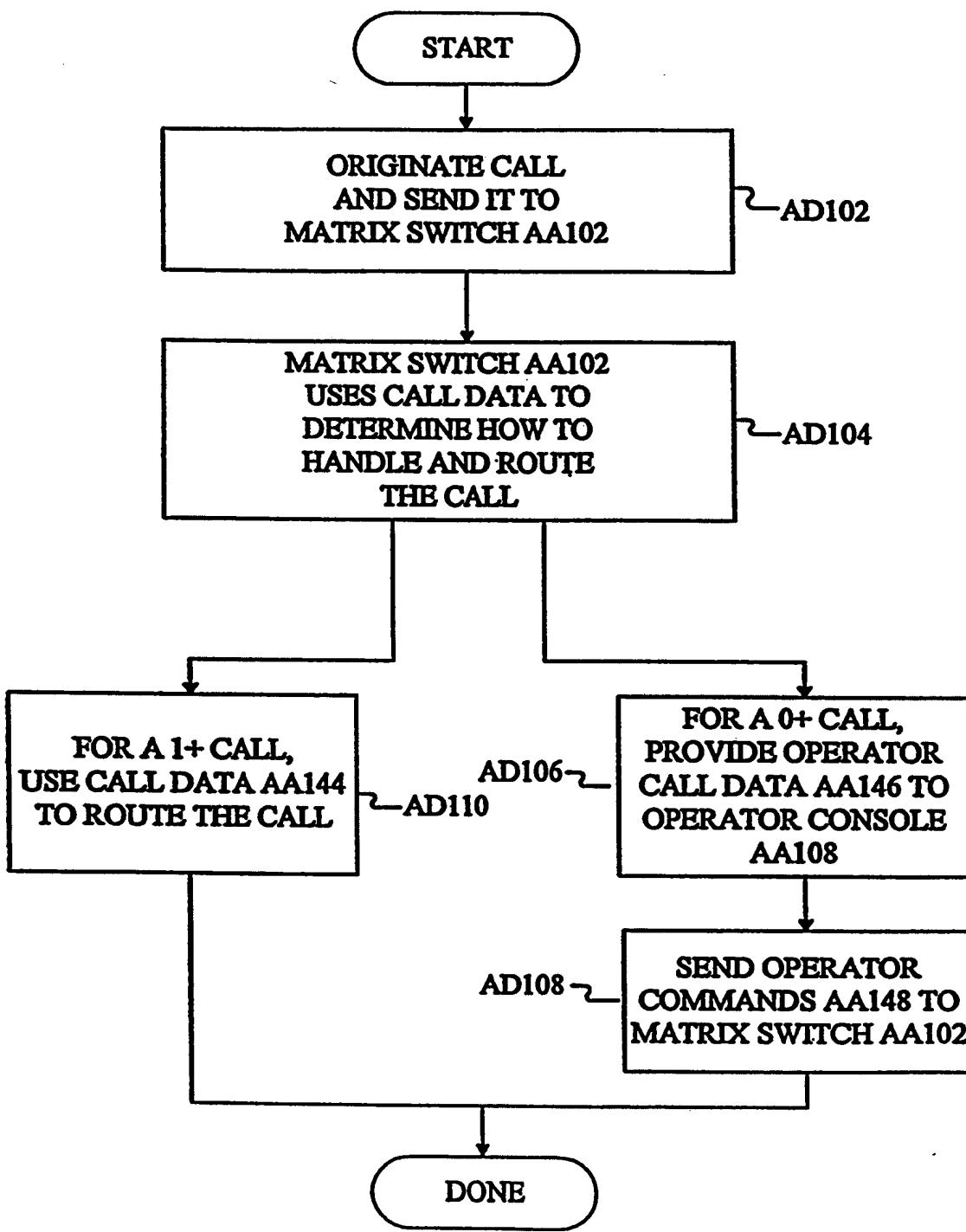
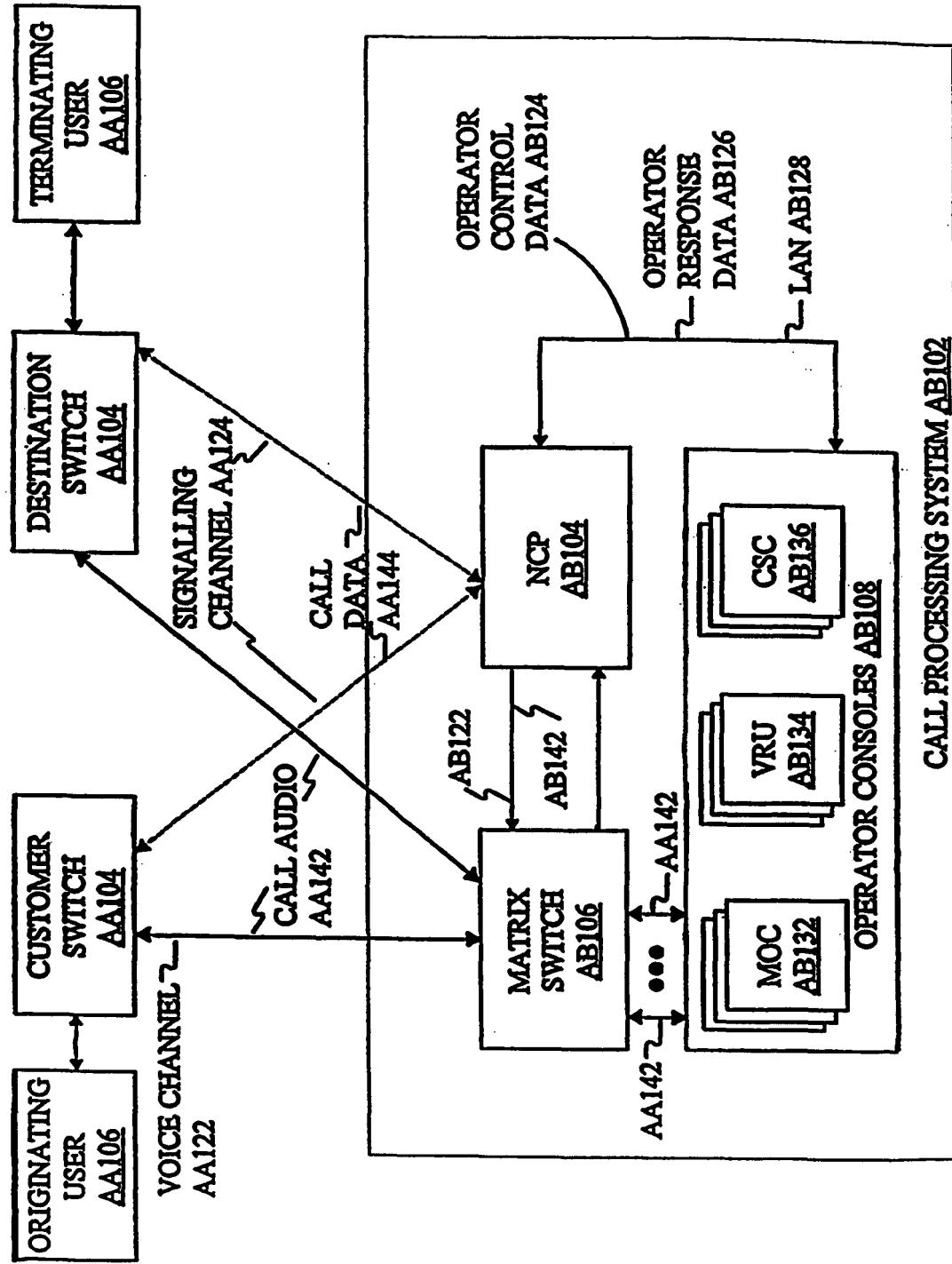


FIG 2



CALL PROCESSING SYSTEM AB102

FIG 3

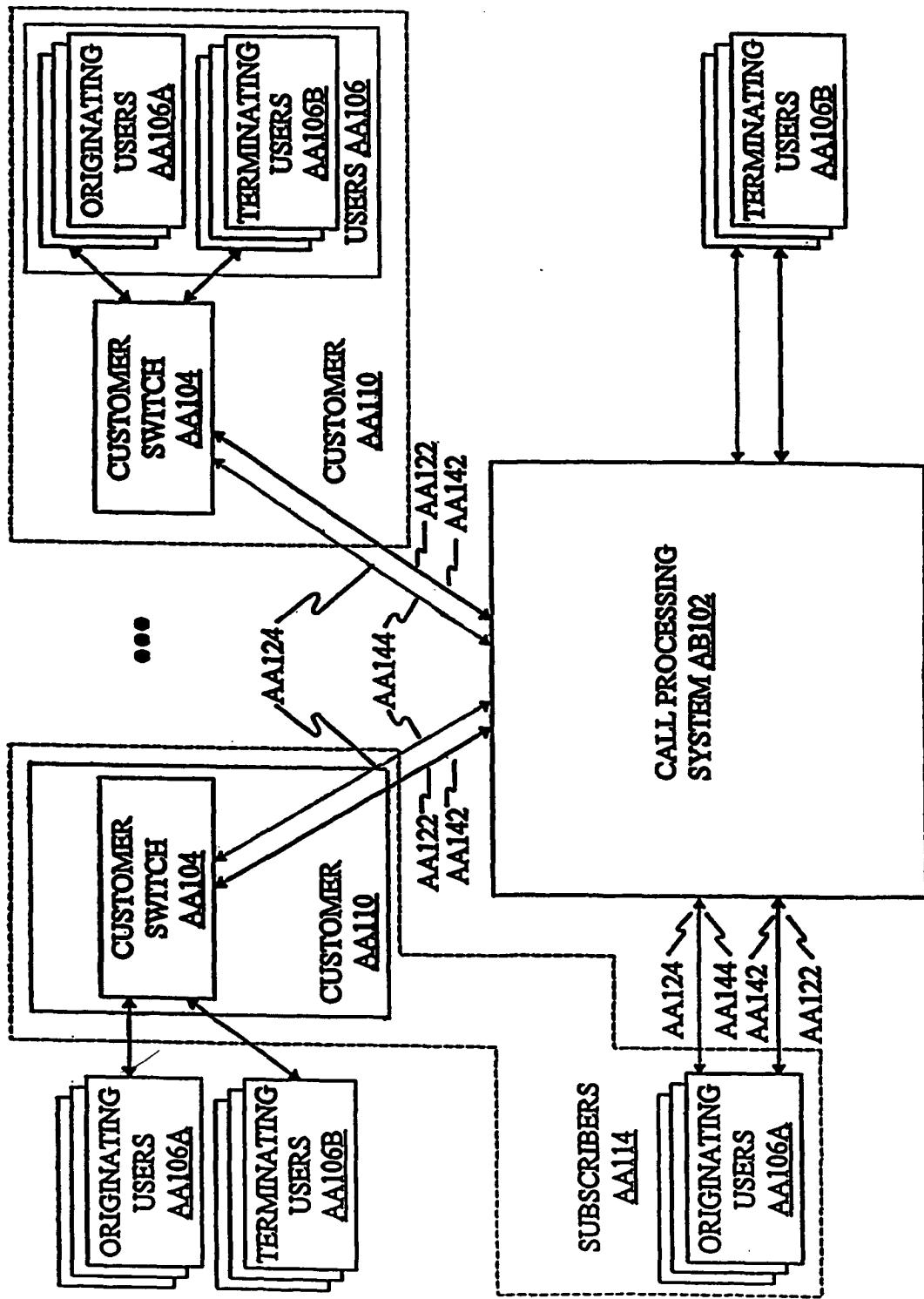


FIG 4

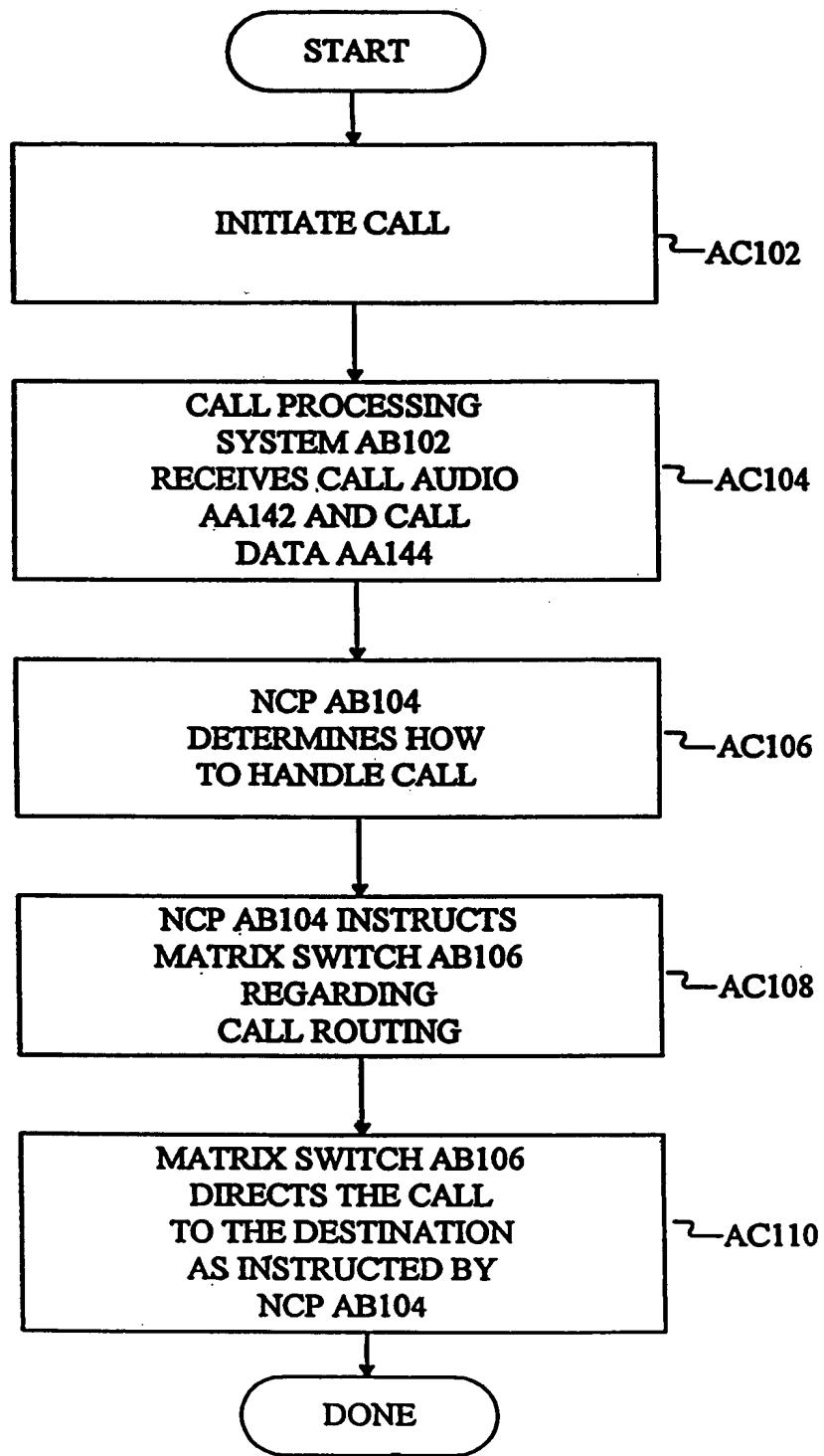


FIG 5

FIG 7

FIG 8

FIG 6

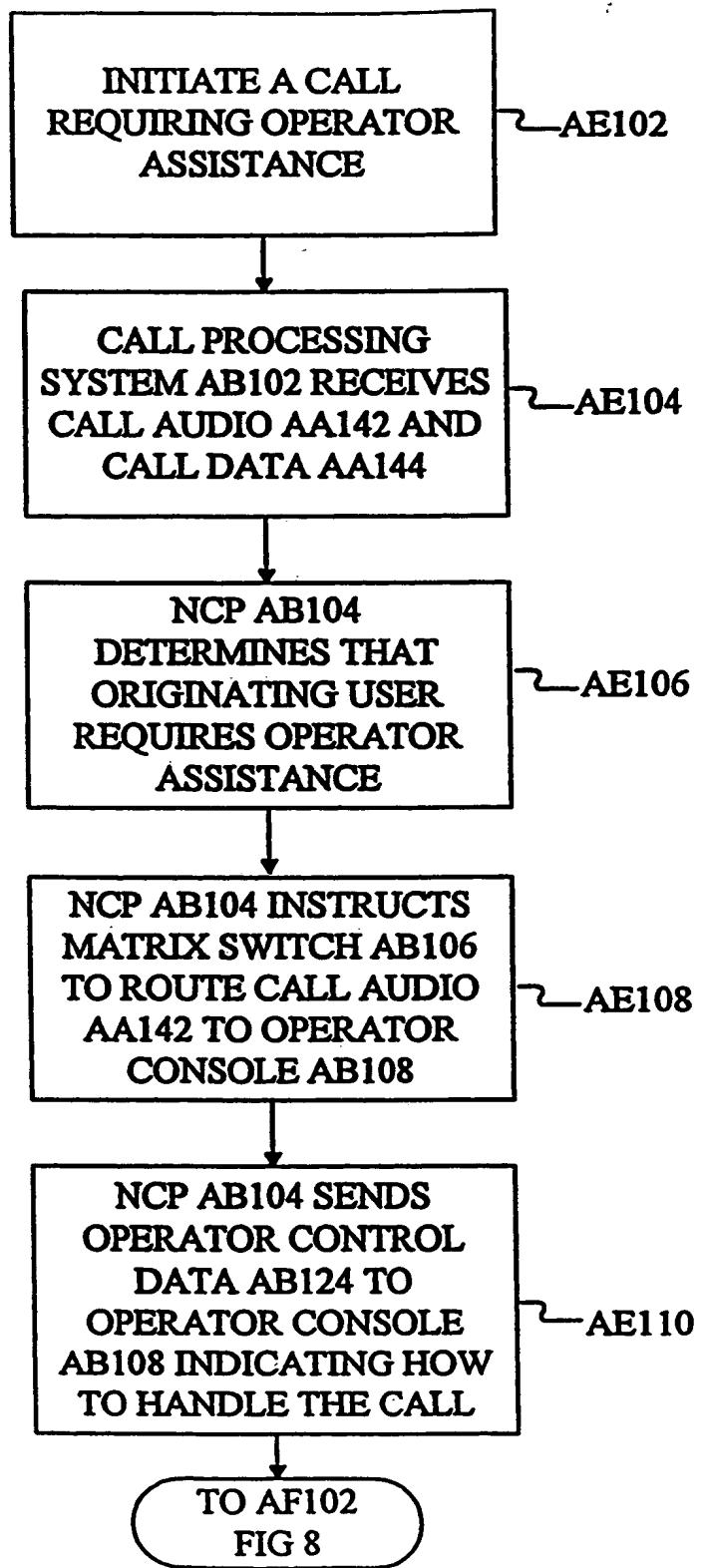


FIG 7

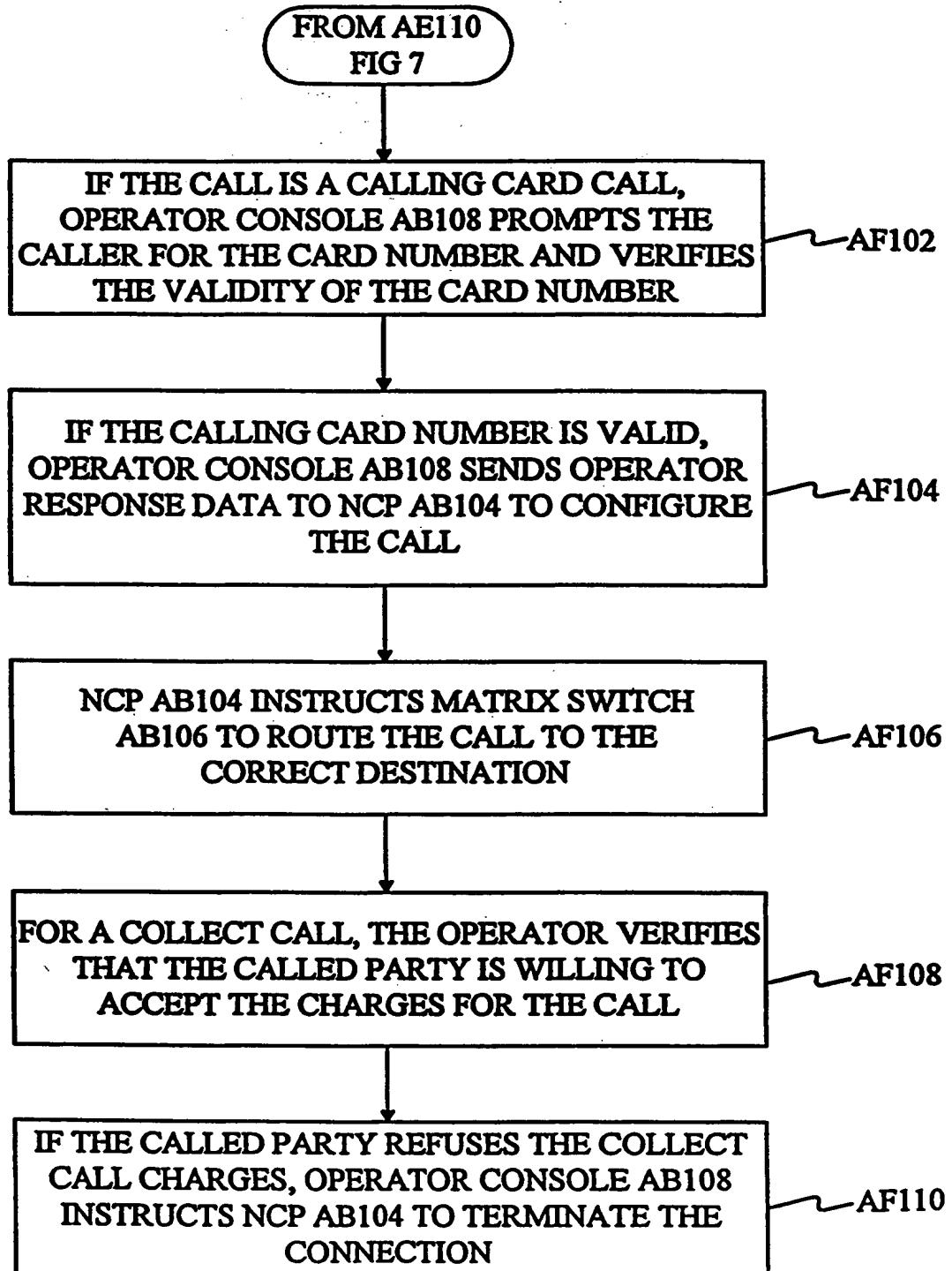
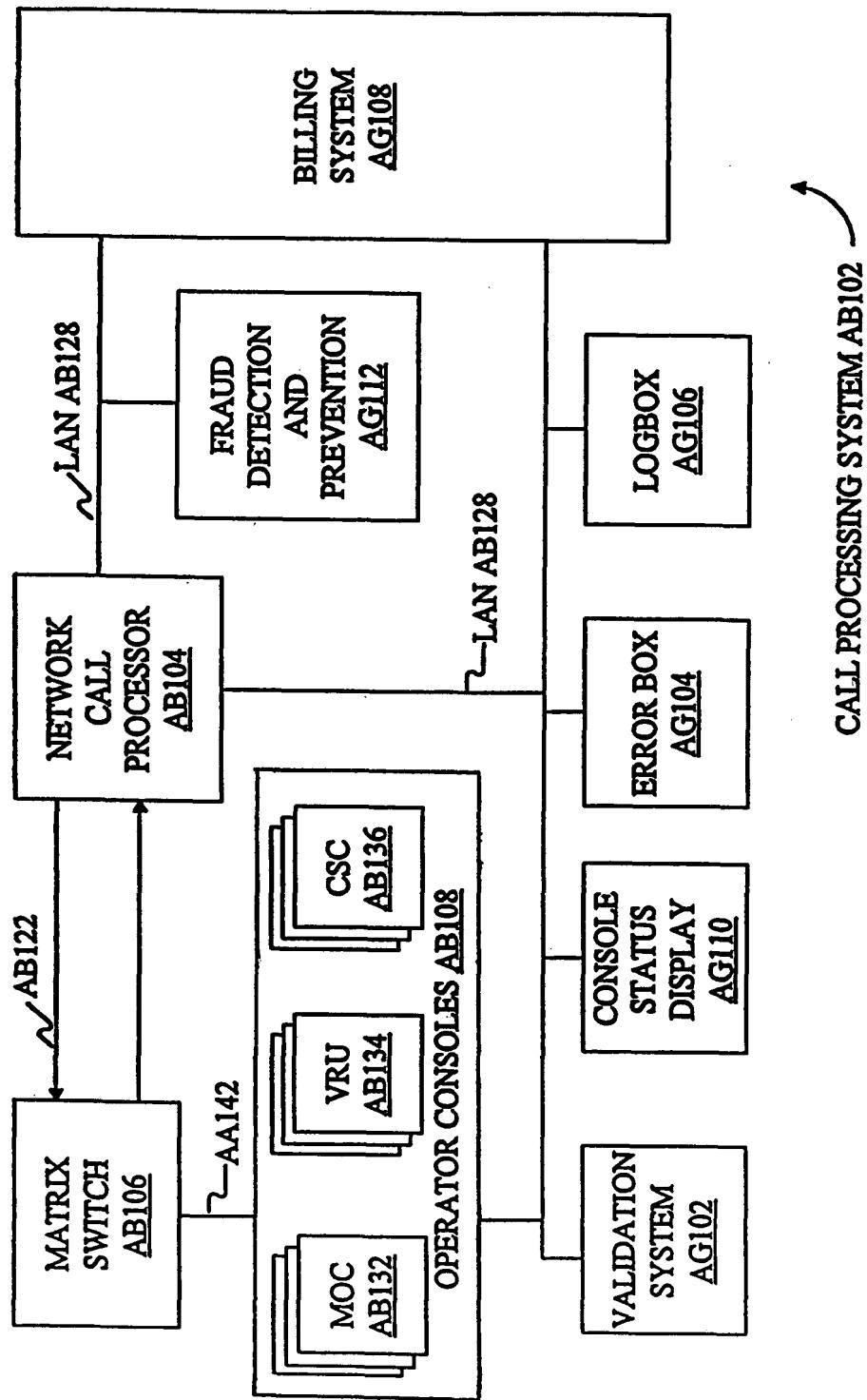


FIG 8



CALL PROCESSING SYSTEM AB102

FIG 9

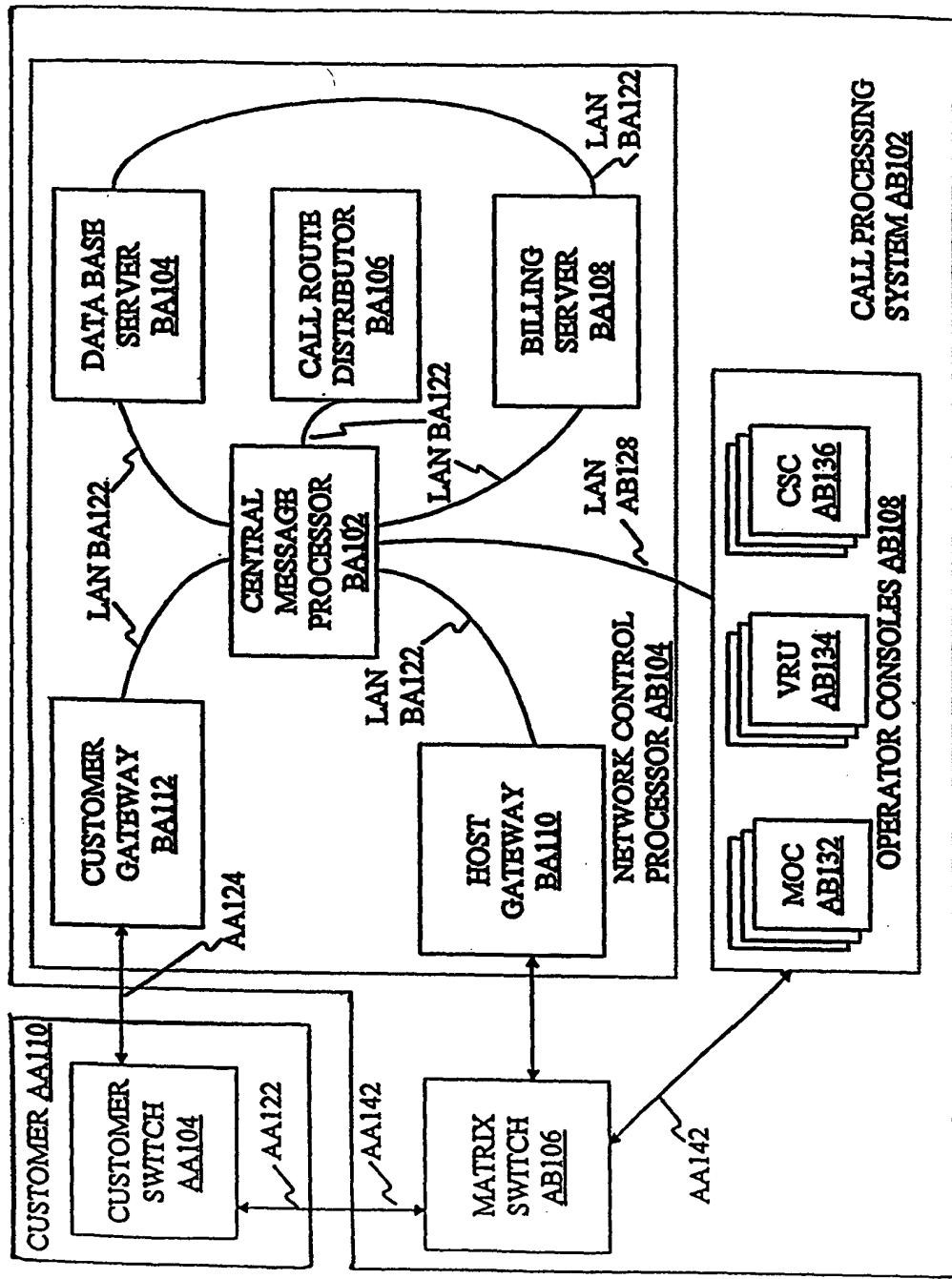


FIG 10

FIG 12

FIG 13

FIG 11

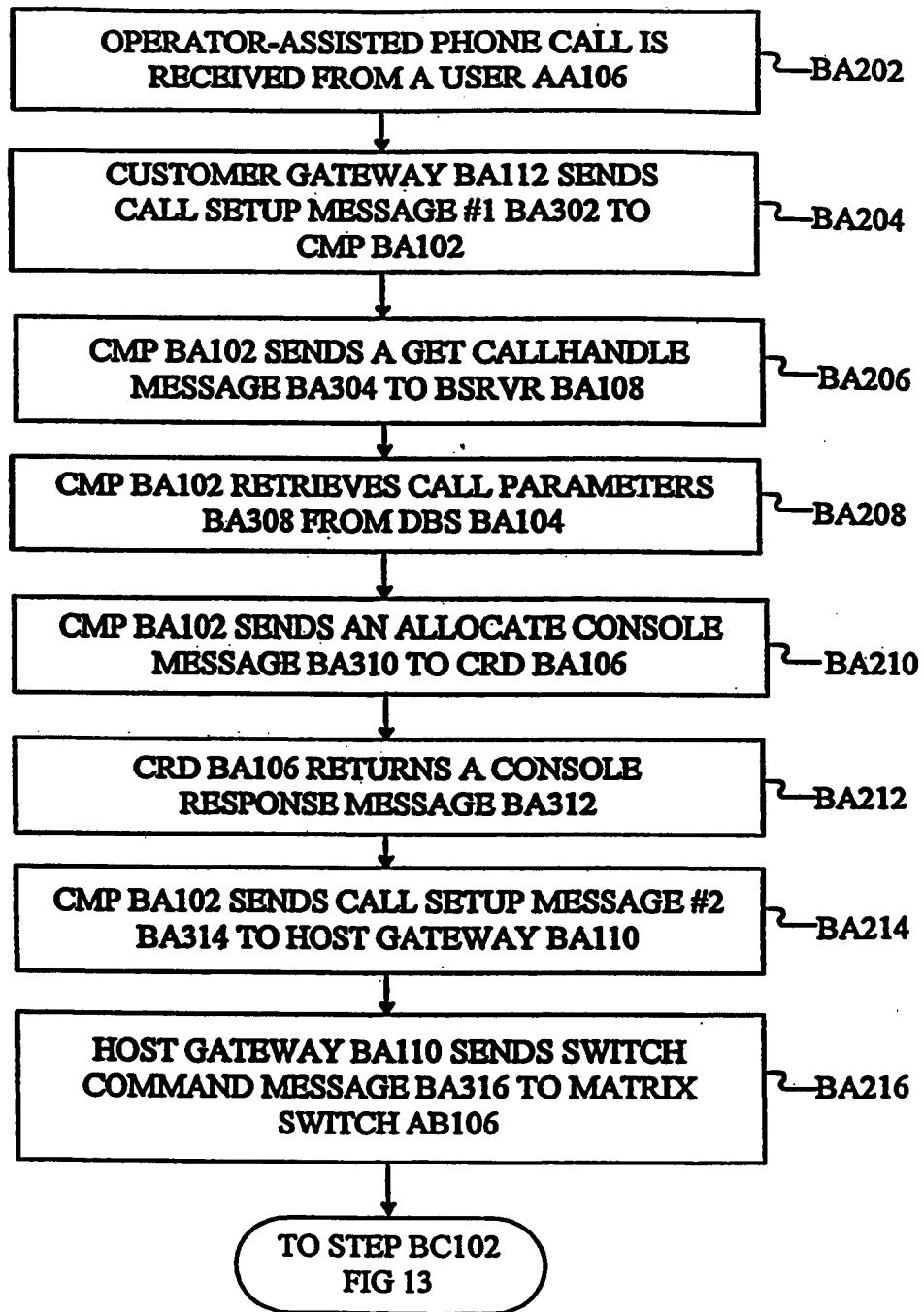


FIG 12

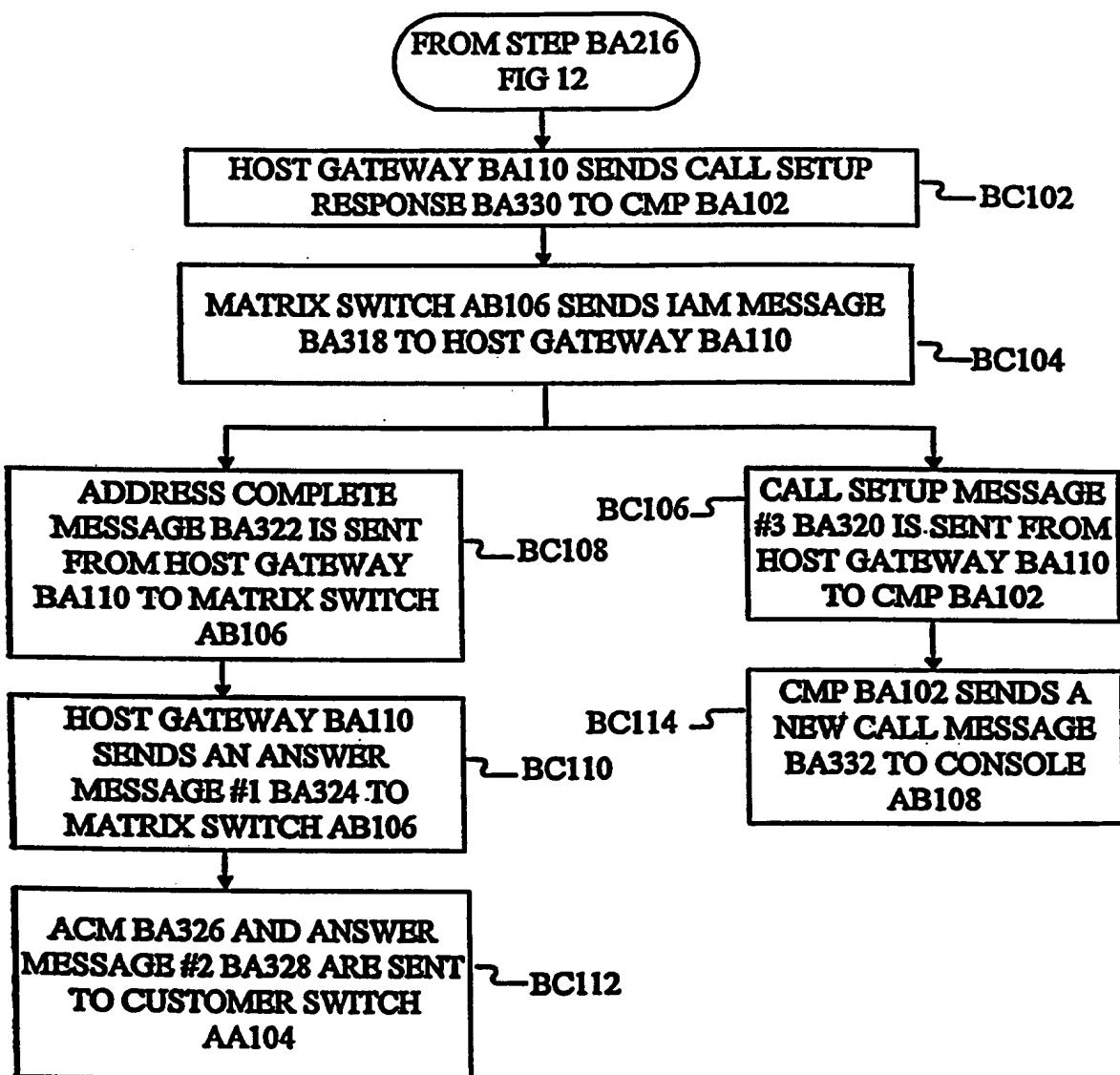


FIG 13

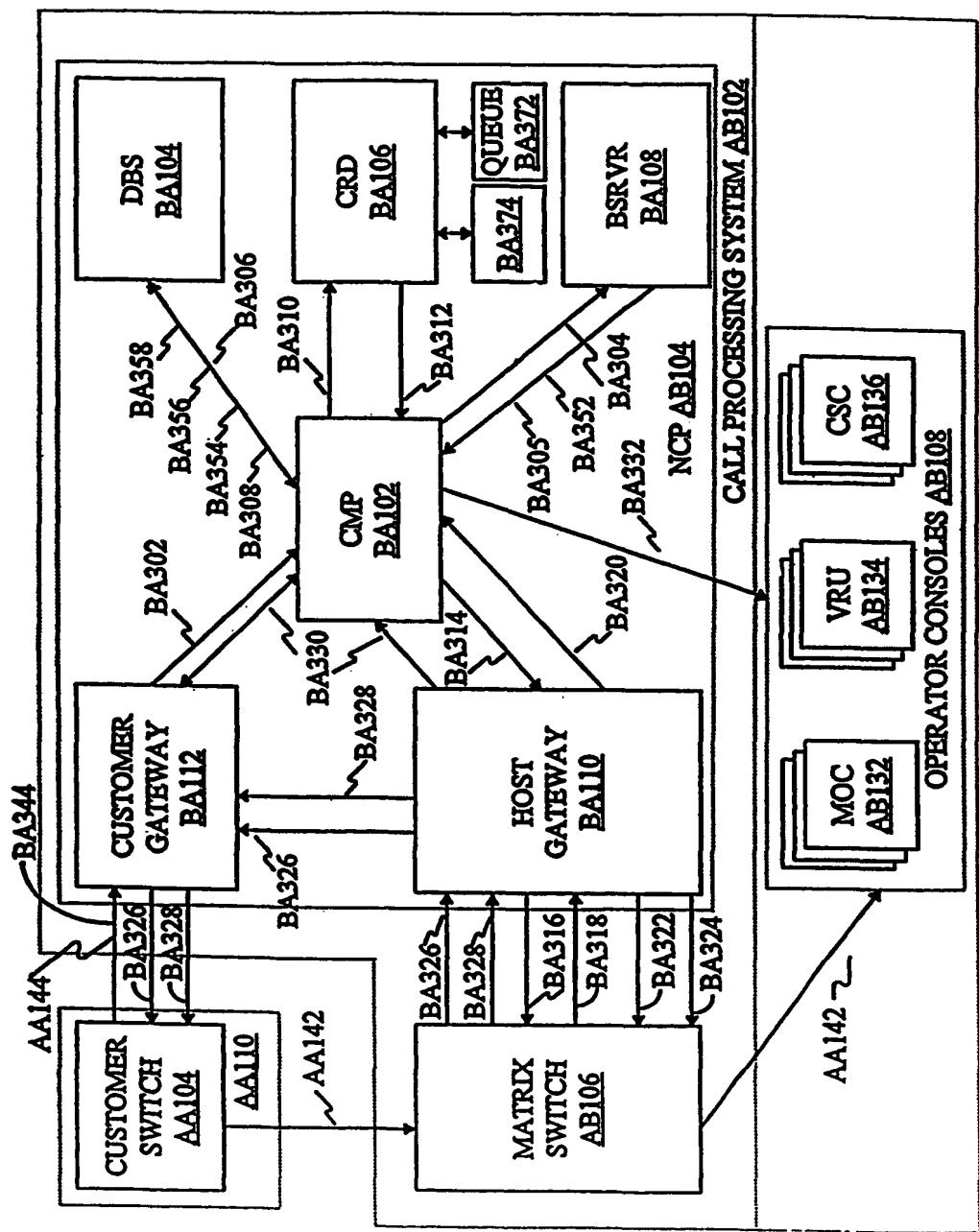
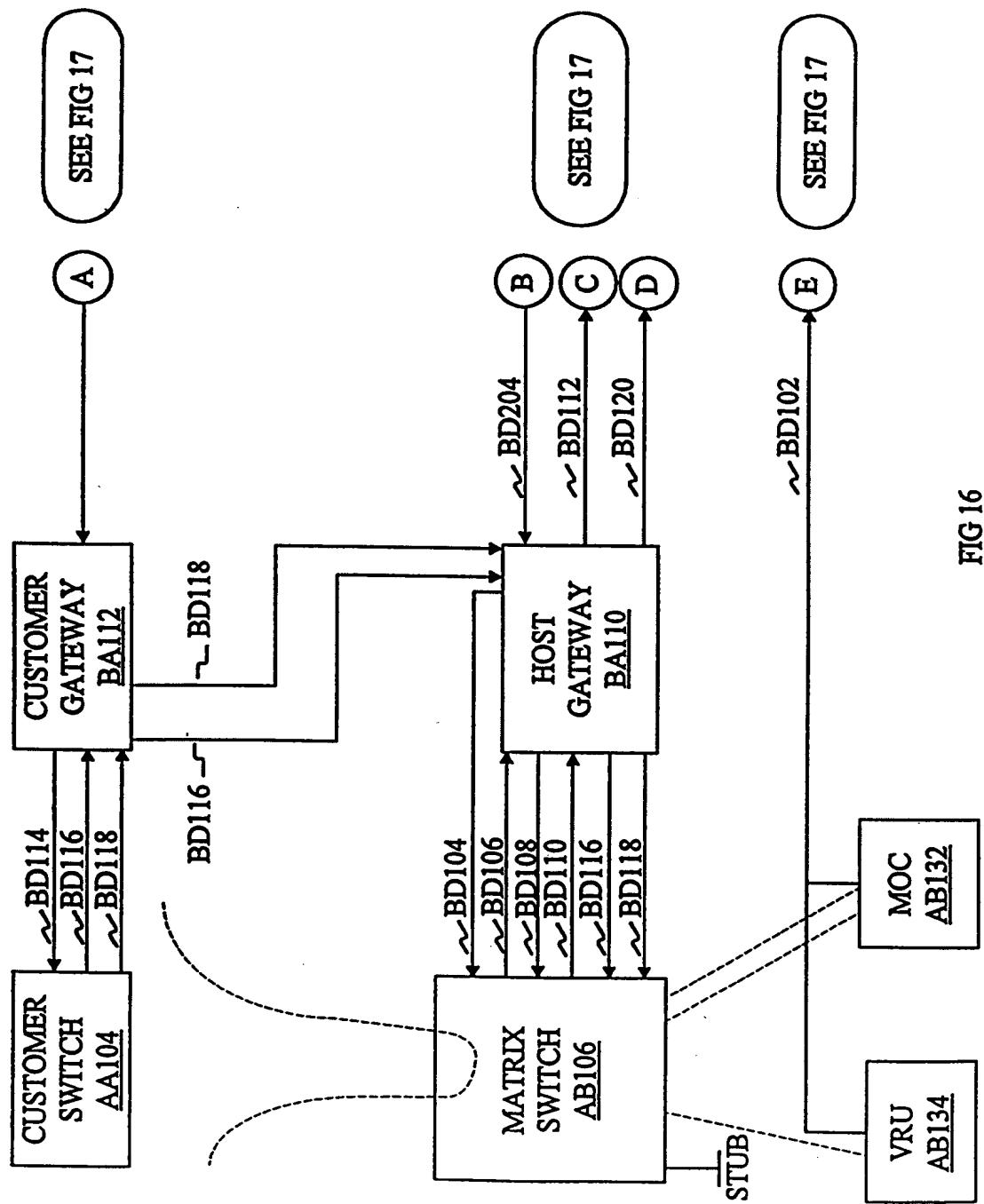


FIG 14

FIG 16

FIG 17

FIG 15



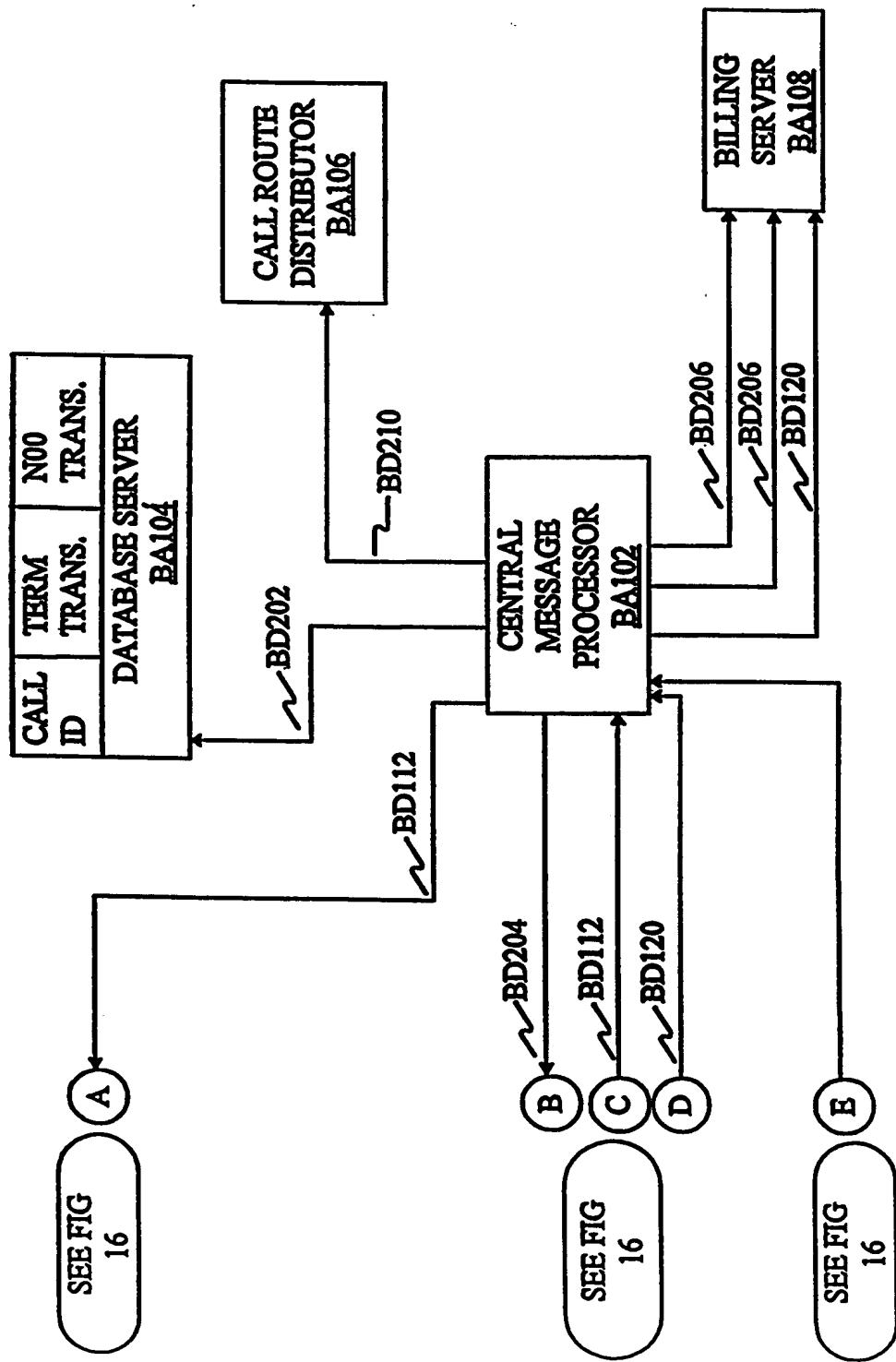


FIG 17

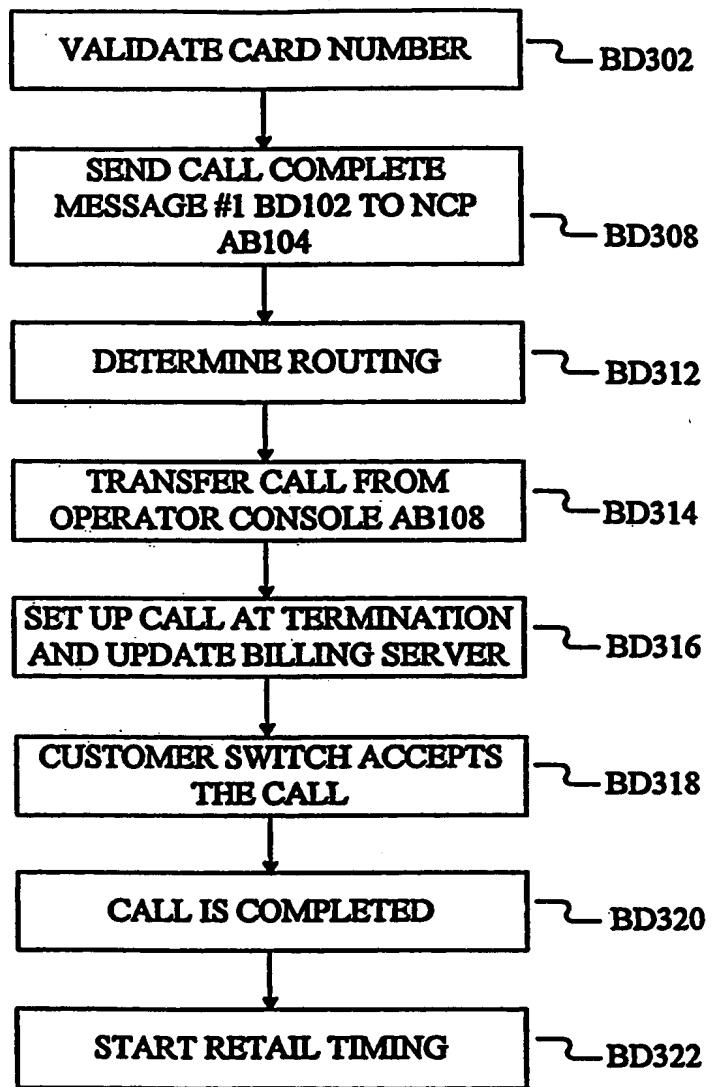
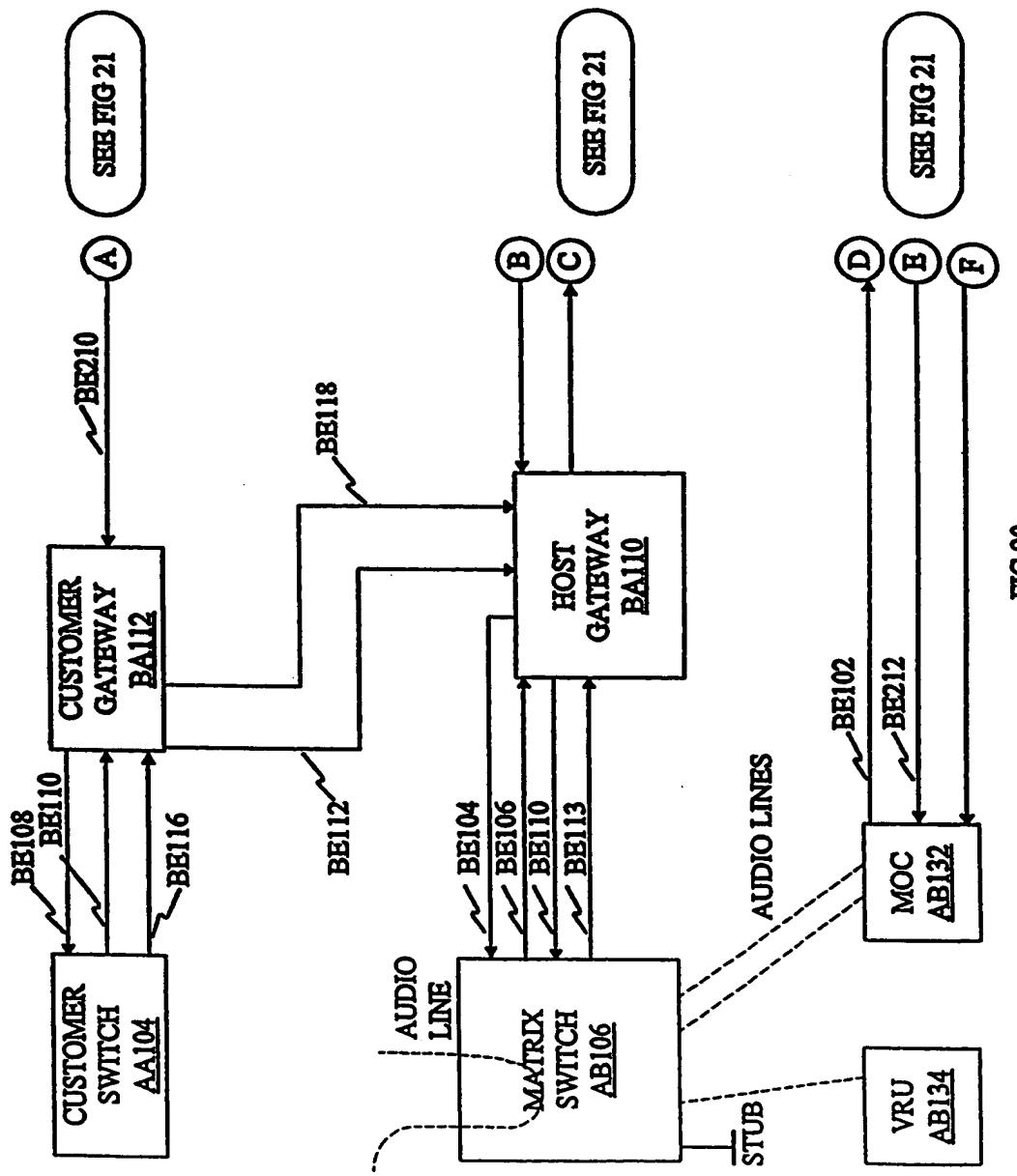


FIG 18

FIG 20

FIG 21

FIG 19



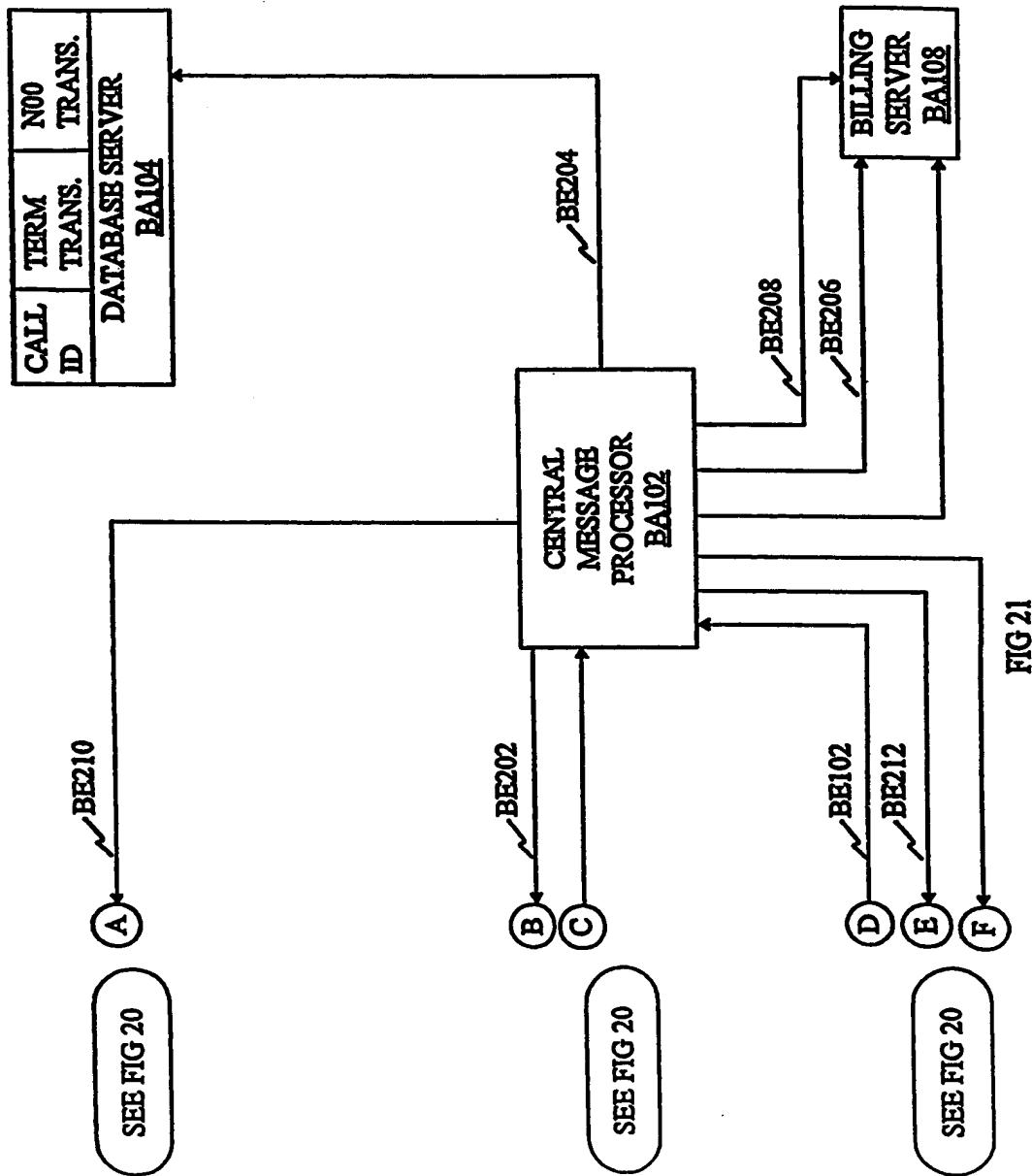


FIG 21

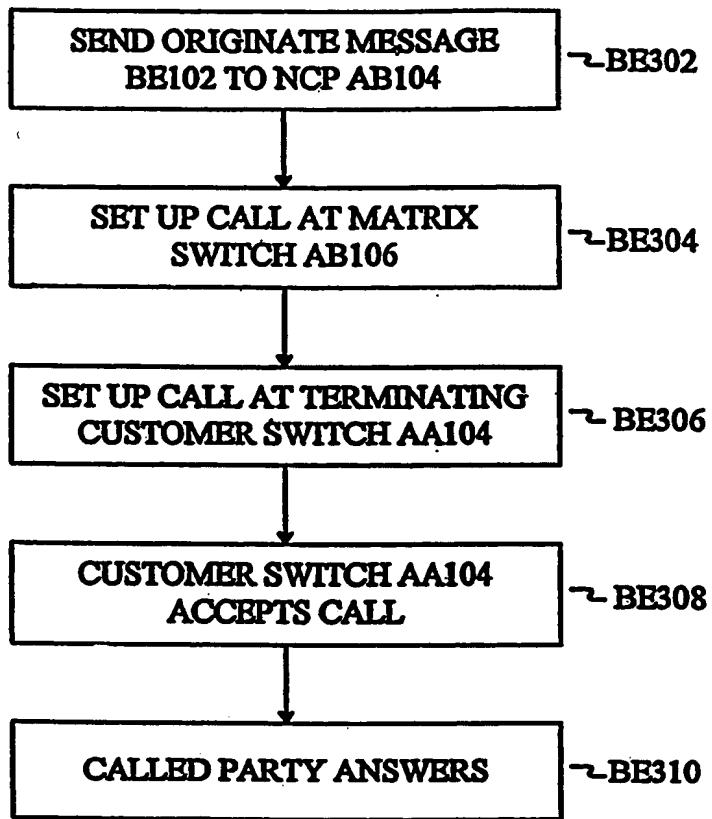


FIG 22

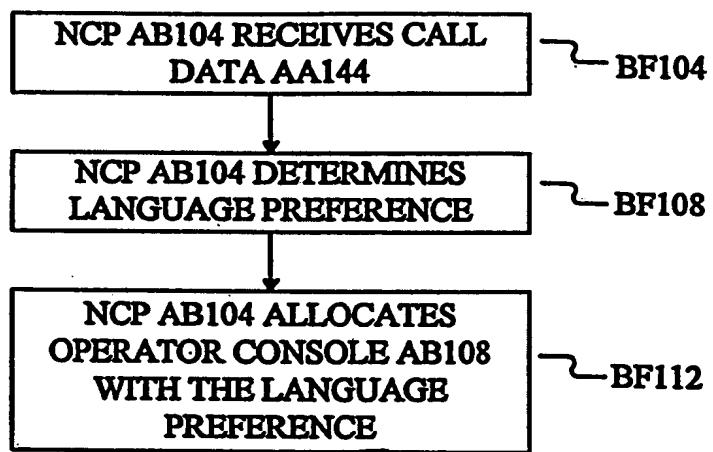


FIG 23

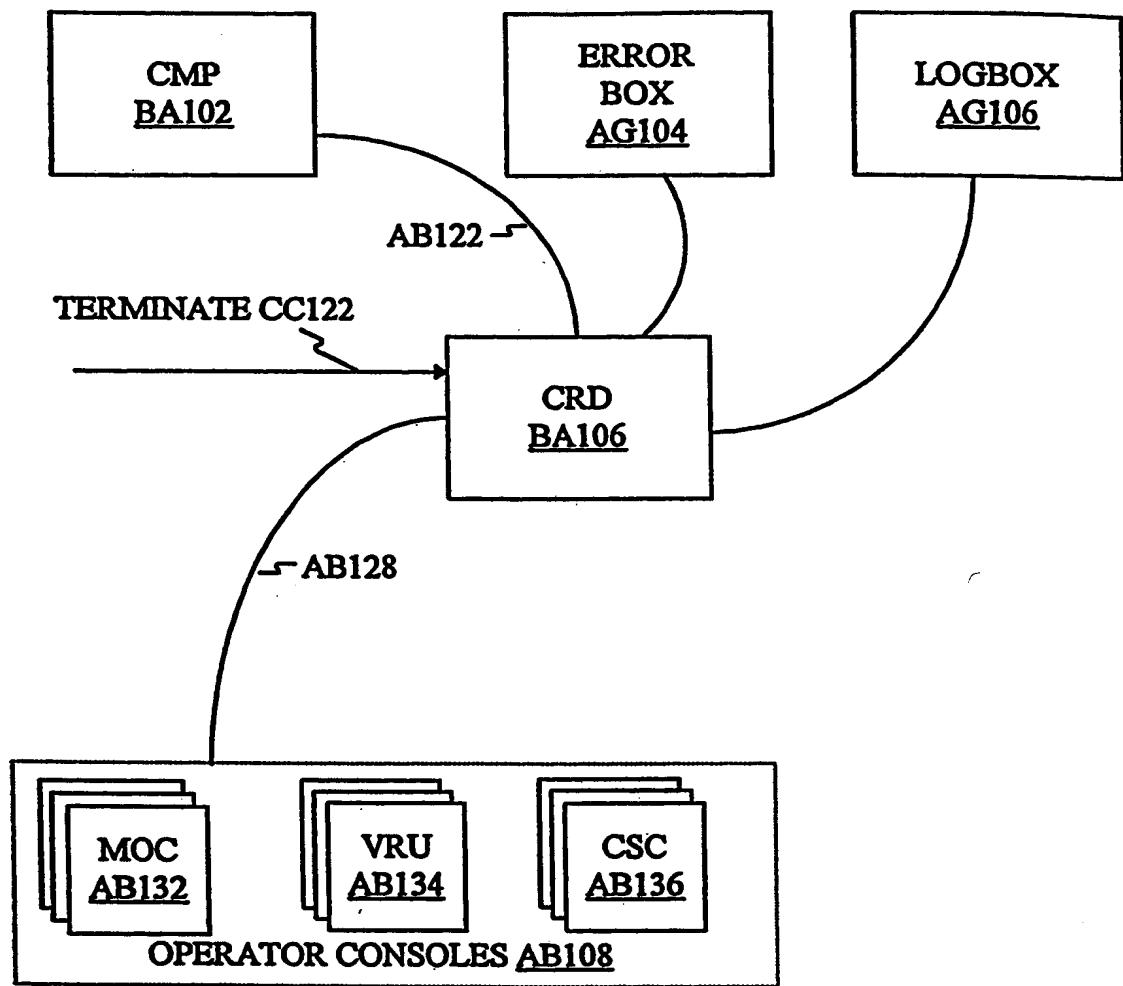


FIG 24

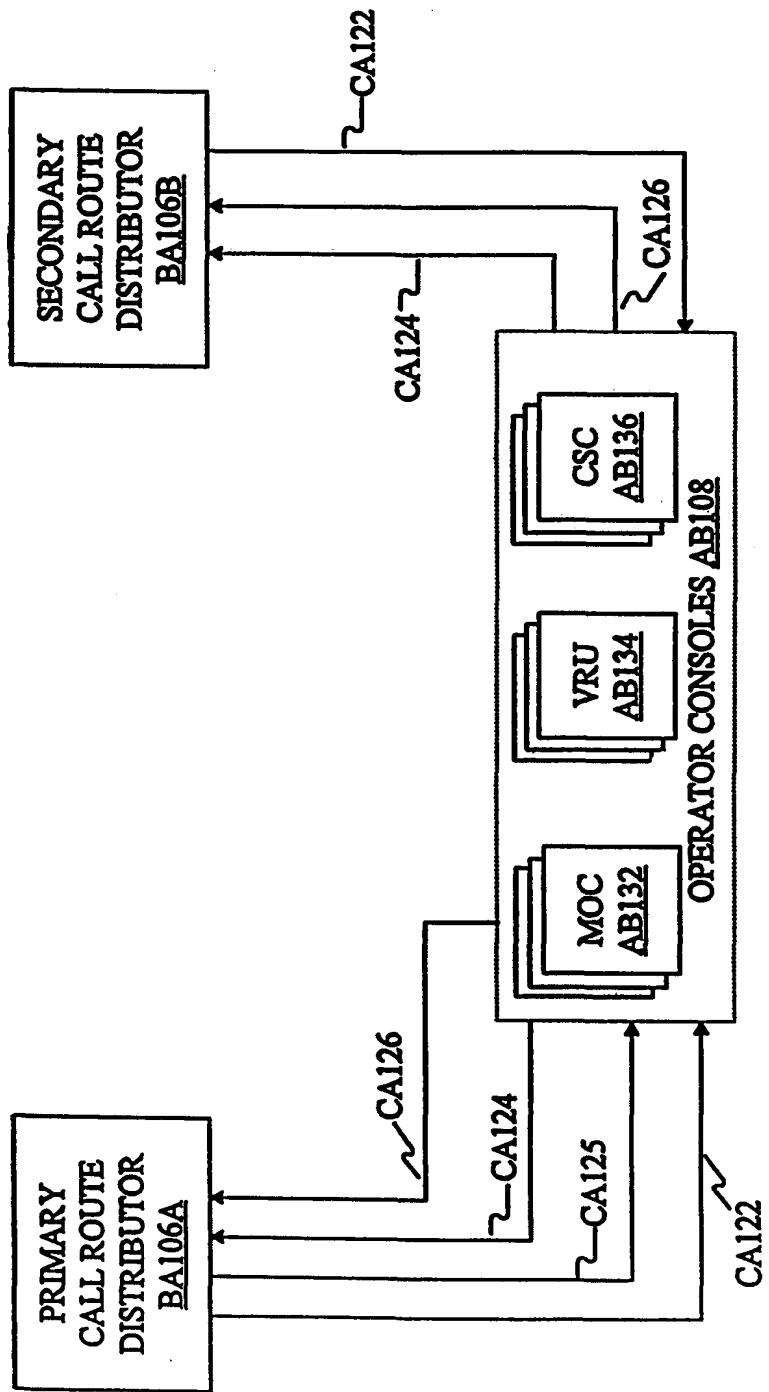


FIG 25

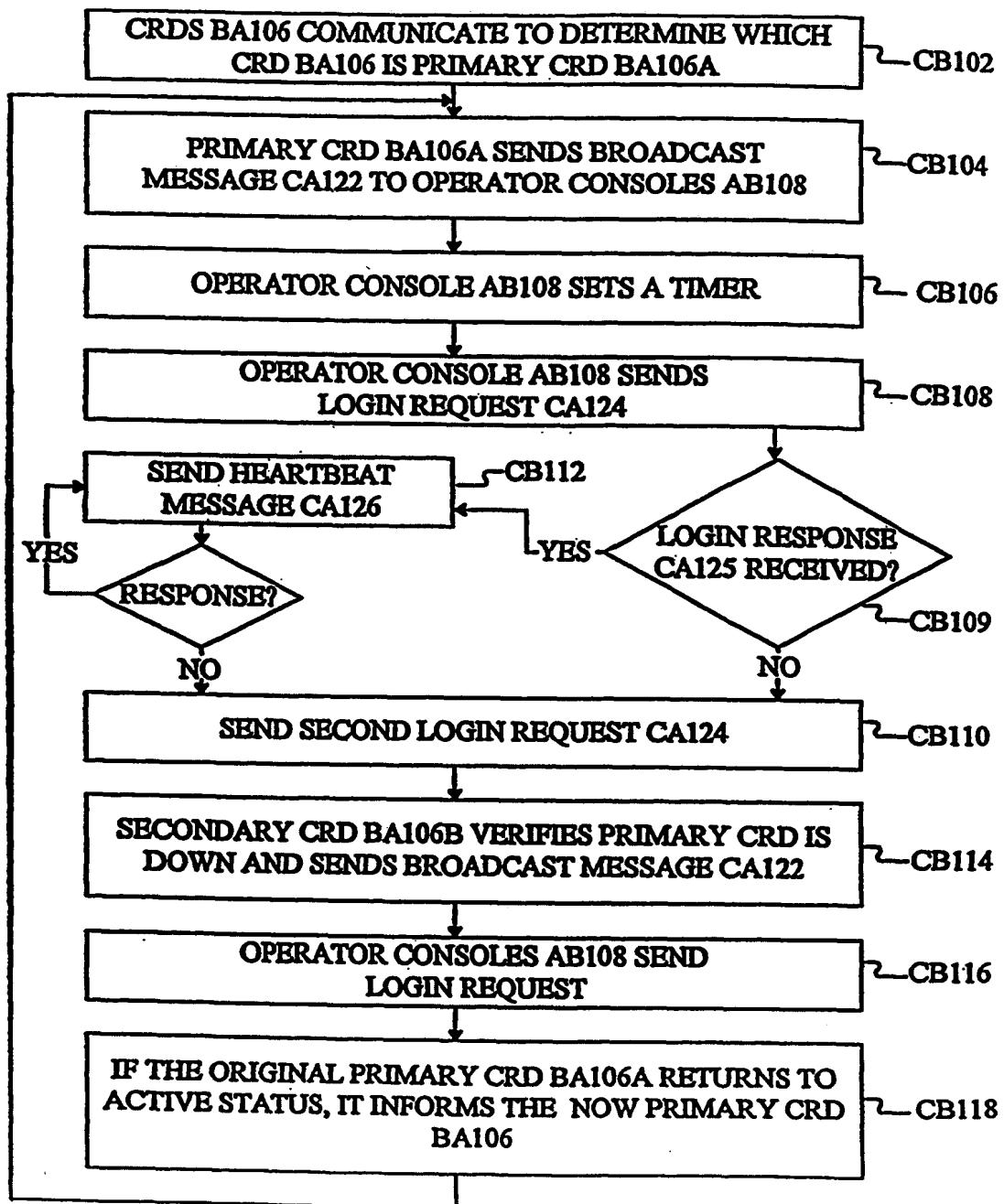


FIG 26

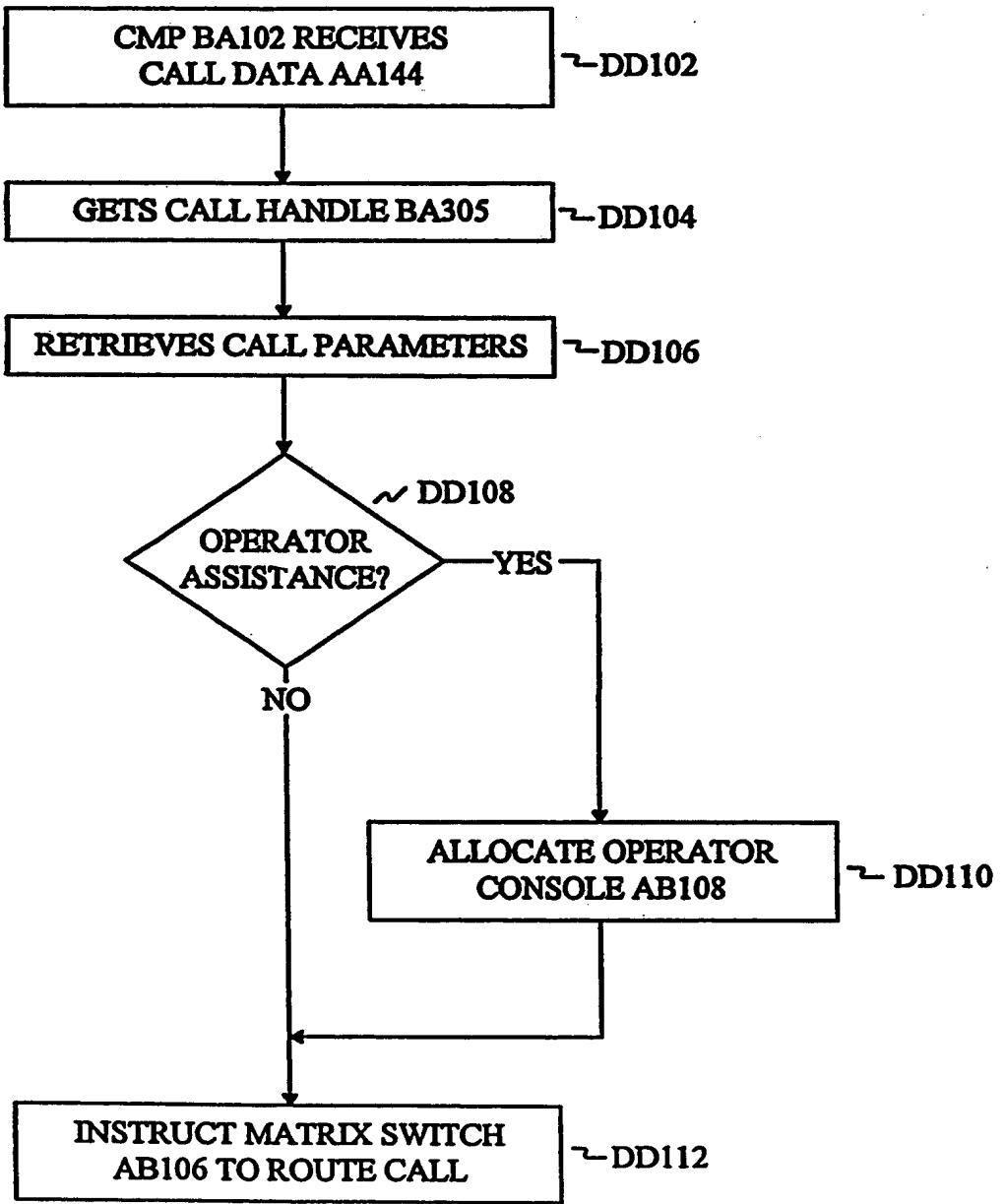


FIG 27

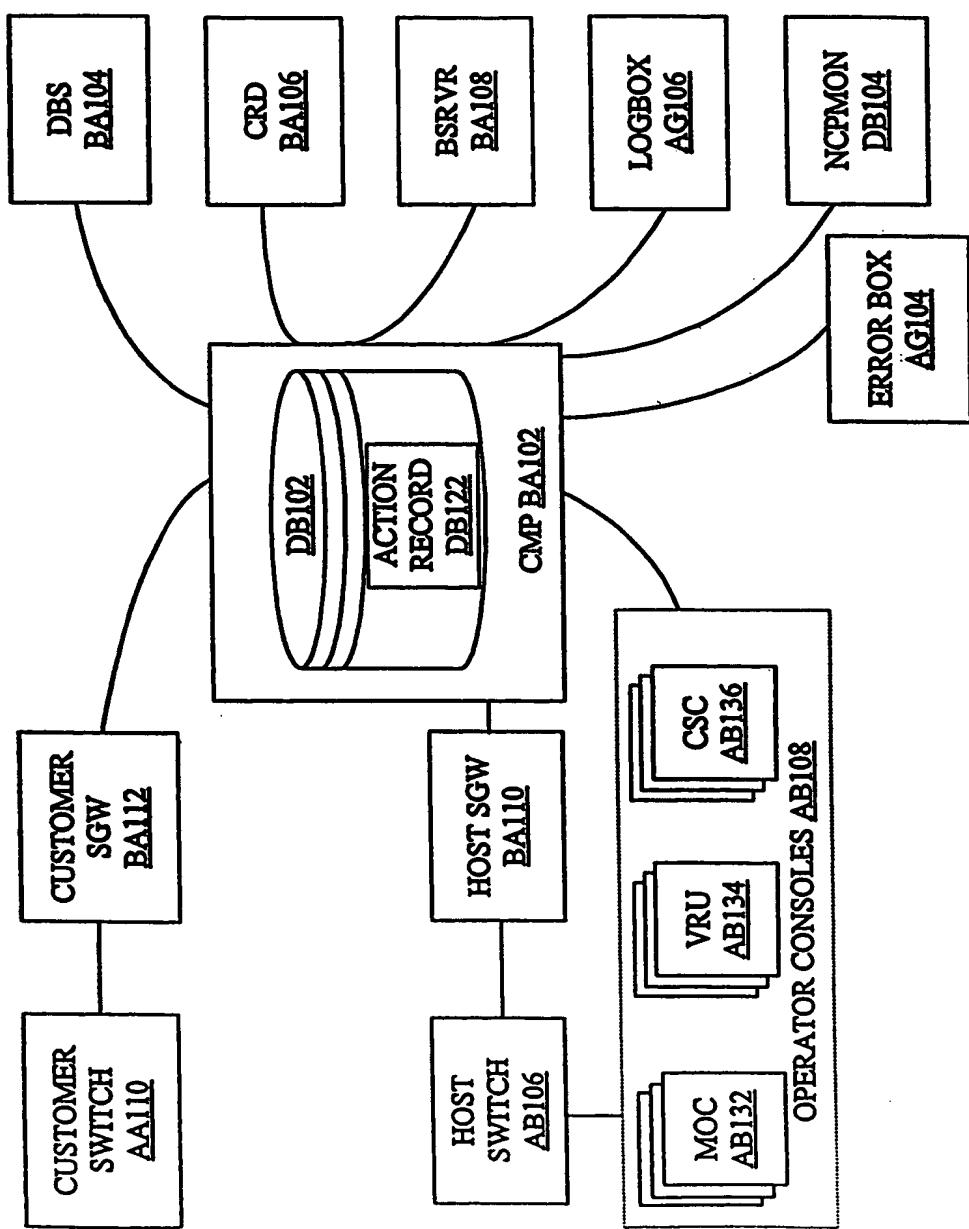


FIG 28

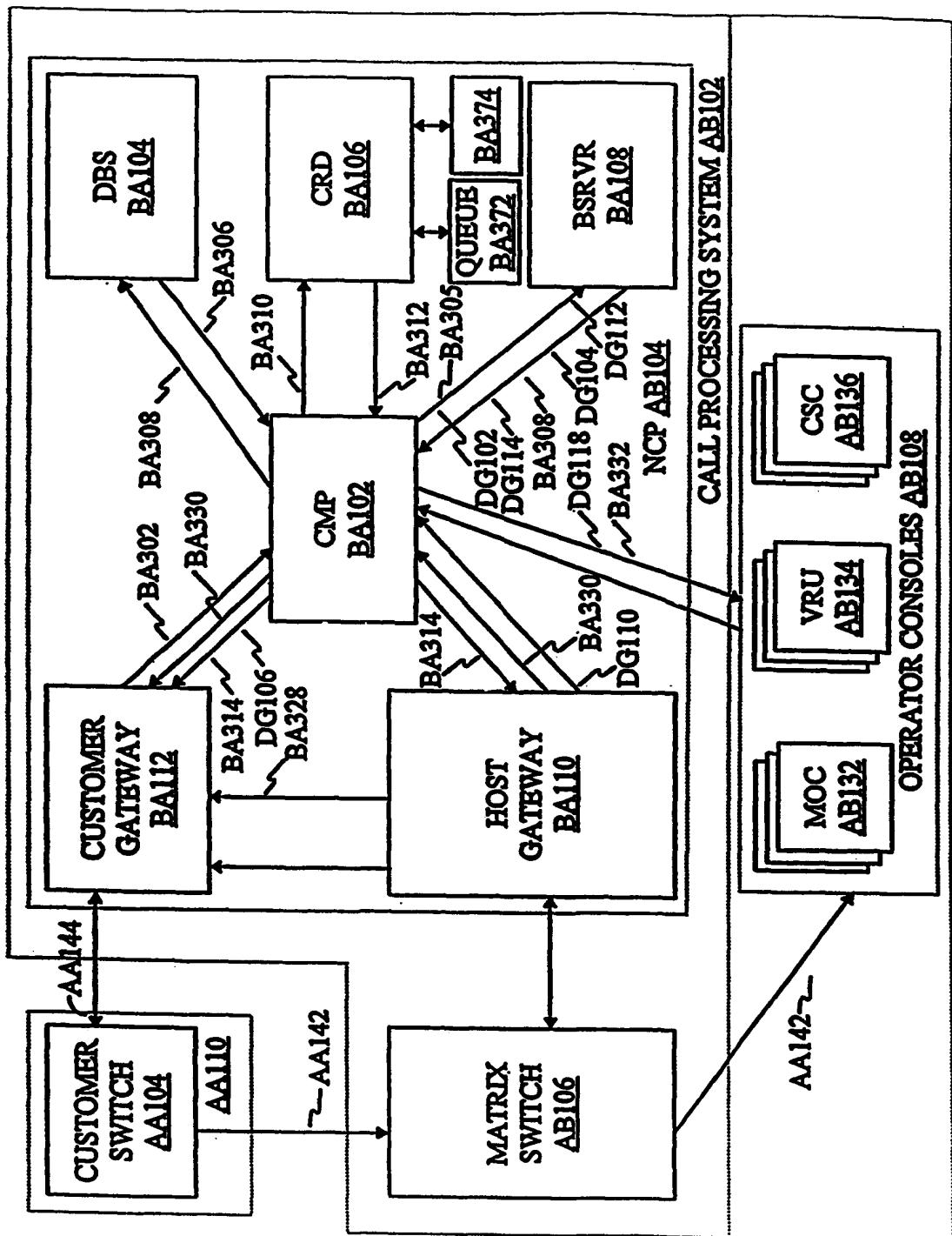


FIG 29

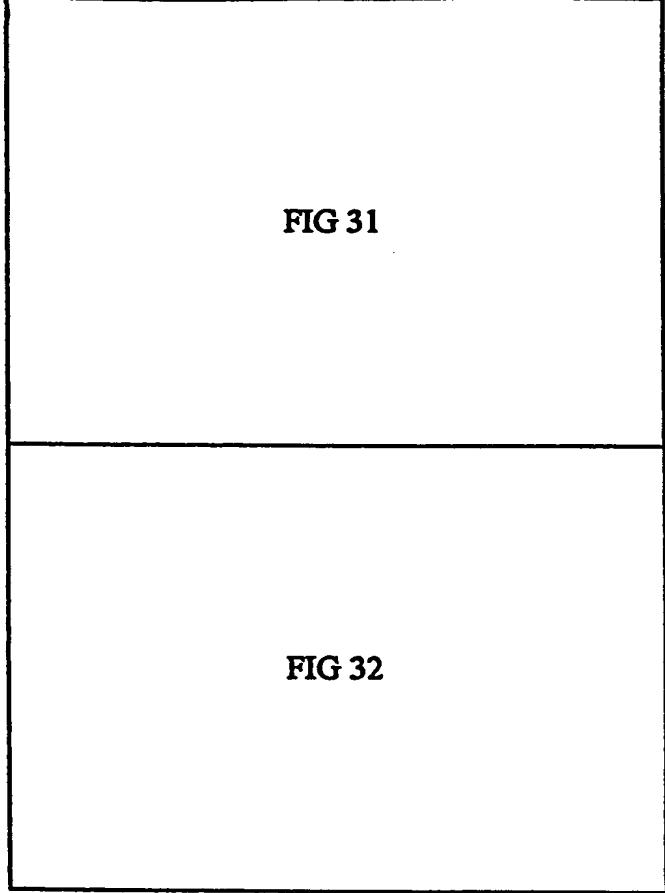


FIG 31

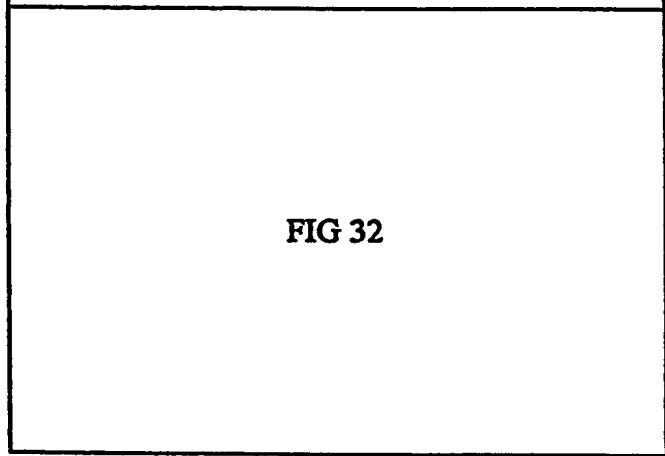


FIG 32

FIG 30

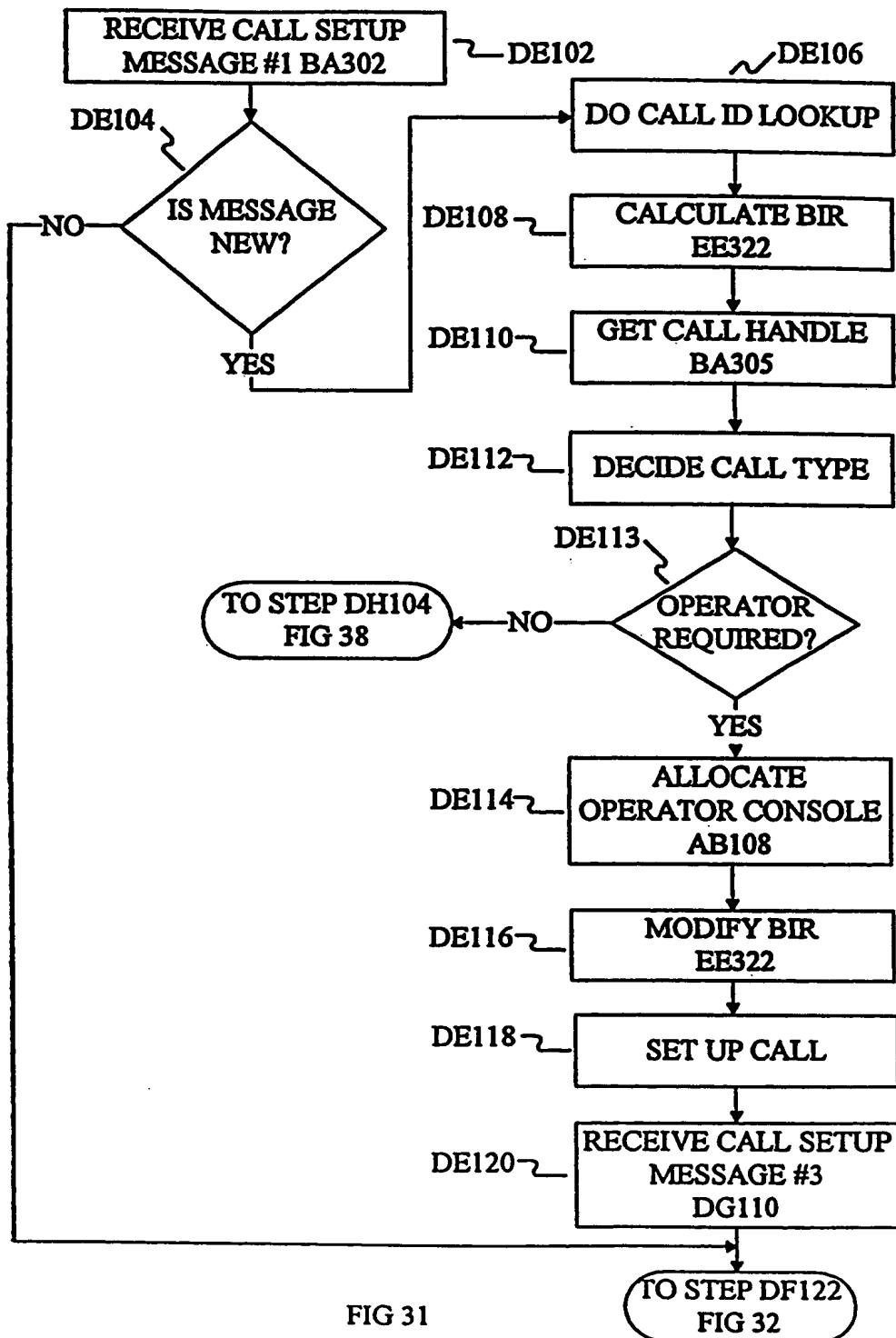


FIG 31

FROM STEP DE120
FIG 31

DF122 ↗ UPDATE BIR EE322

DF124 ↗ SEND NEW CALL
MESSAGE

DF126 ↗ SEND CALL SETUP
RESPONSE #3 TO
HOST SWITCH
GATEWAY BA110

FIG 32

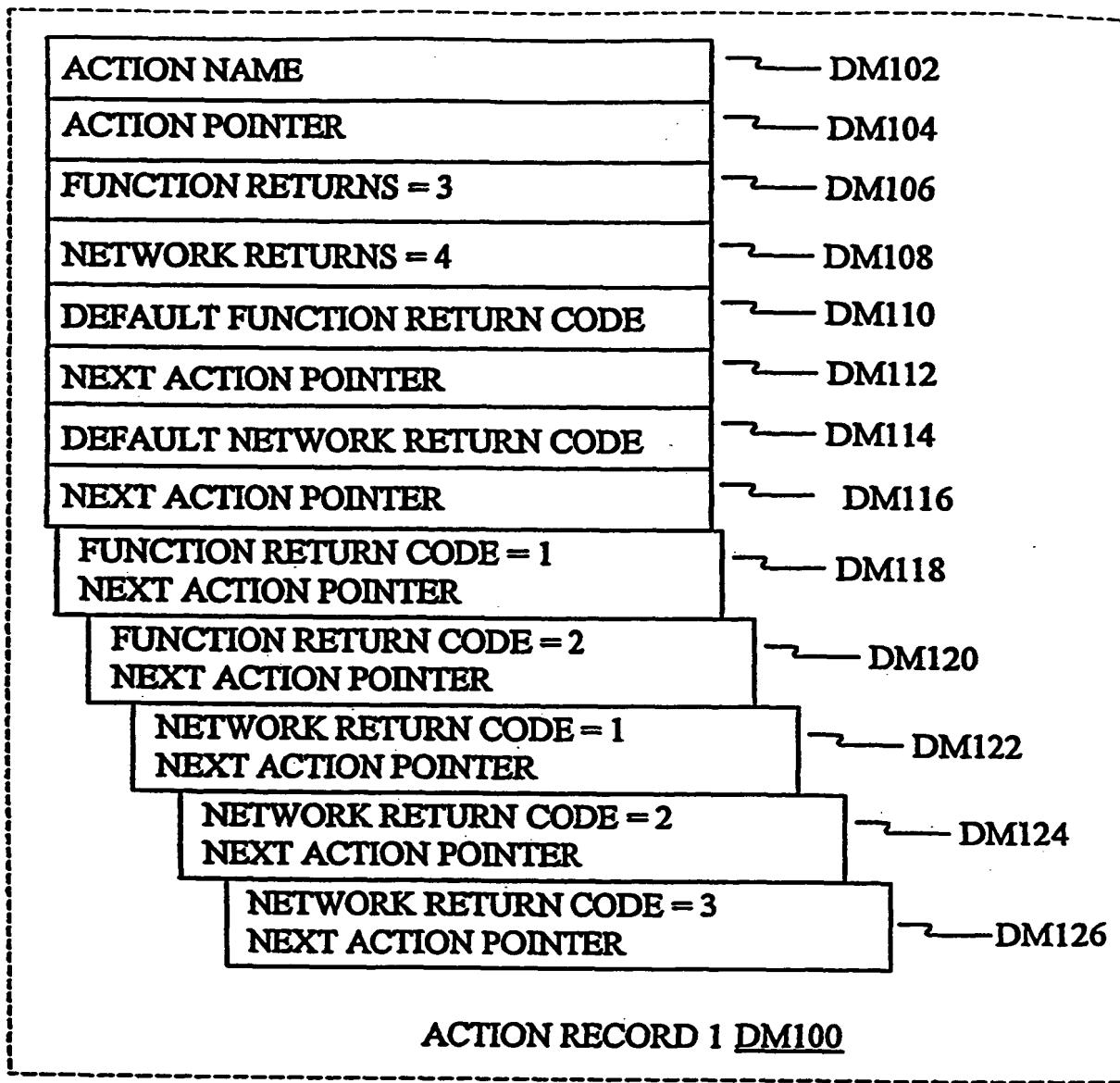


FIG 33

FIG 35

FIG 36

FIG 34

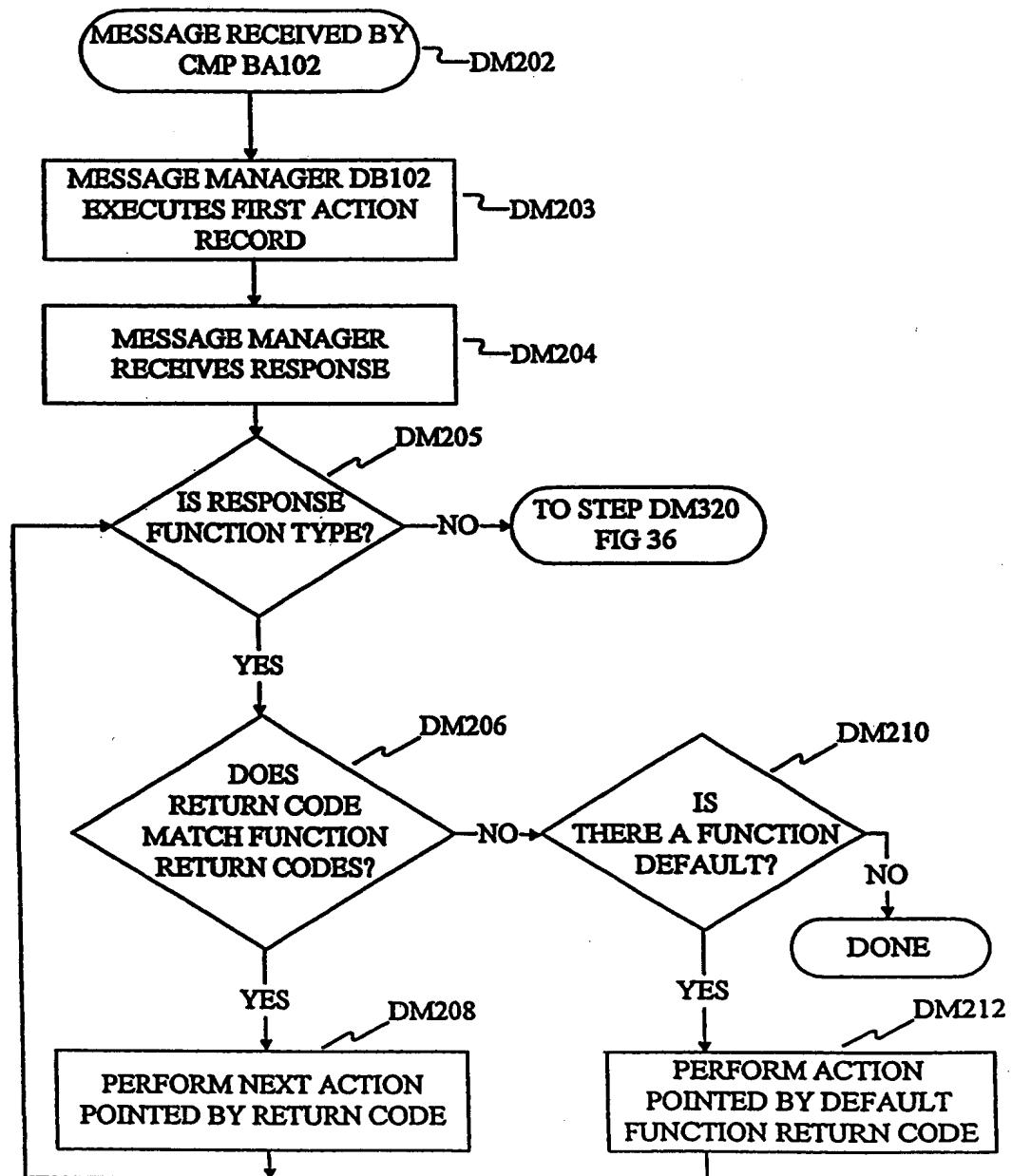


FIG 35

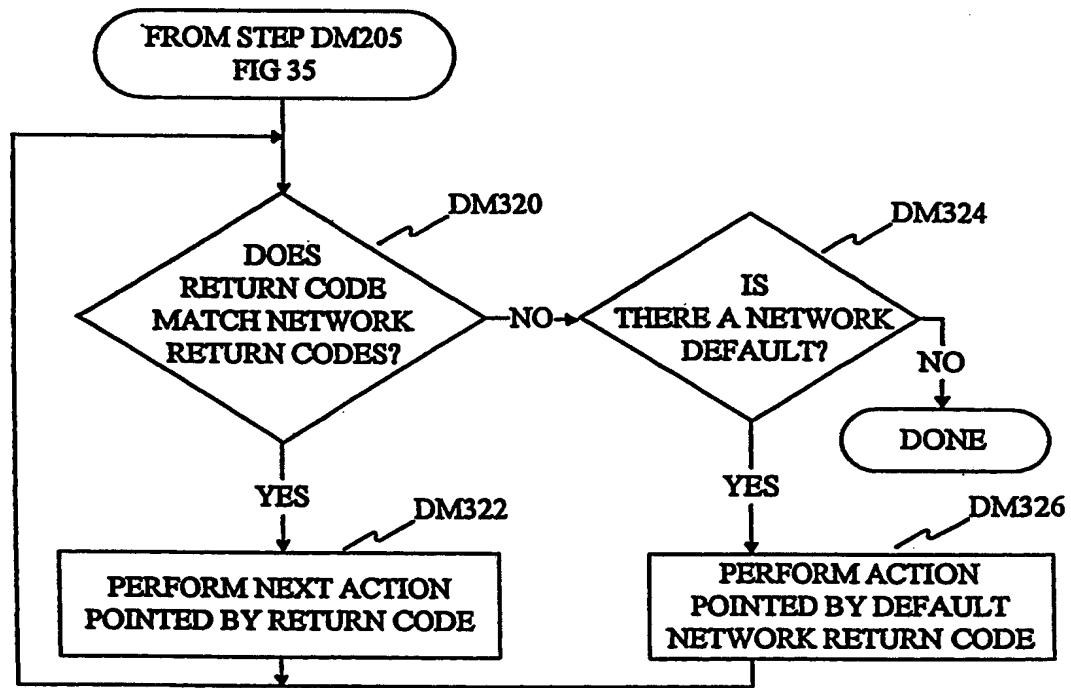


FIG 36

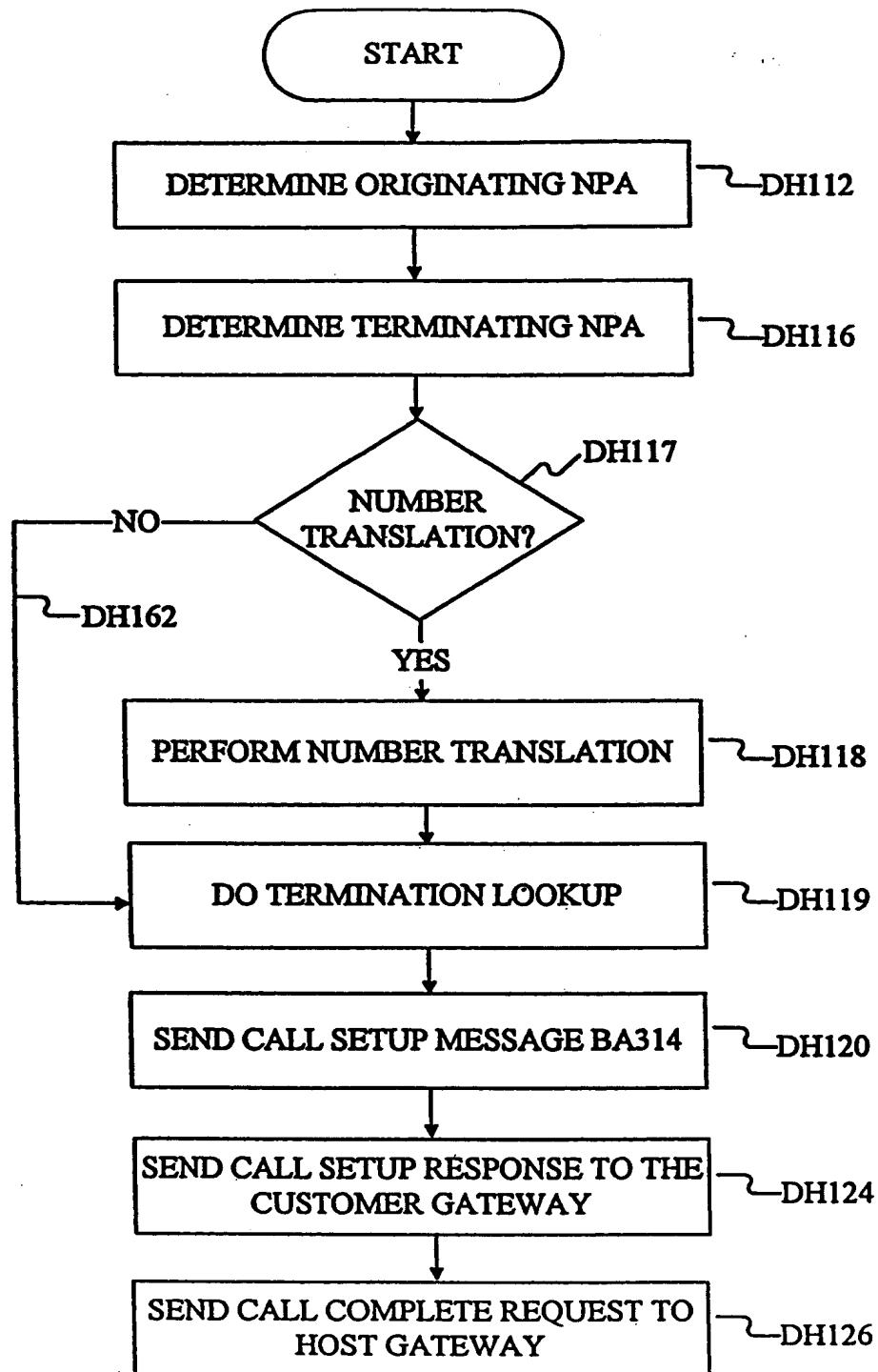


FIG 37

FIG 39

FIG 40

FIG 38

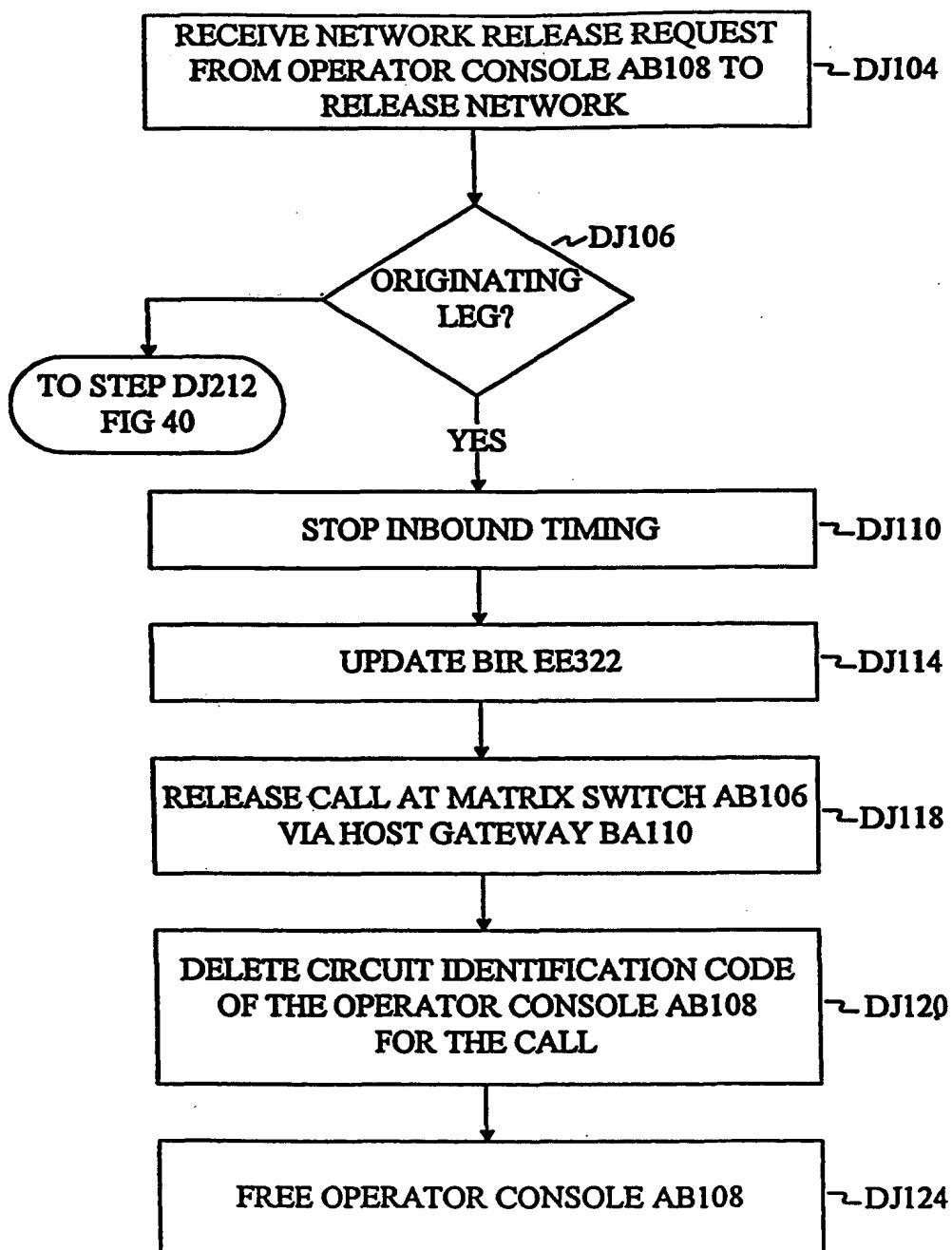


FIG 39

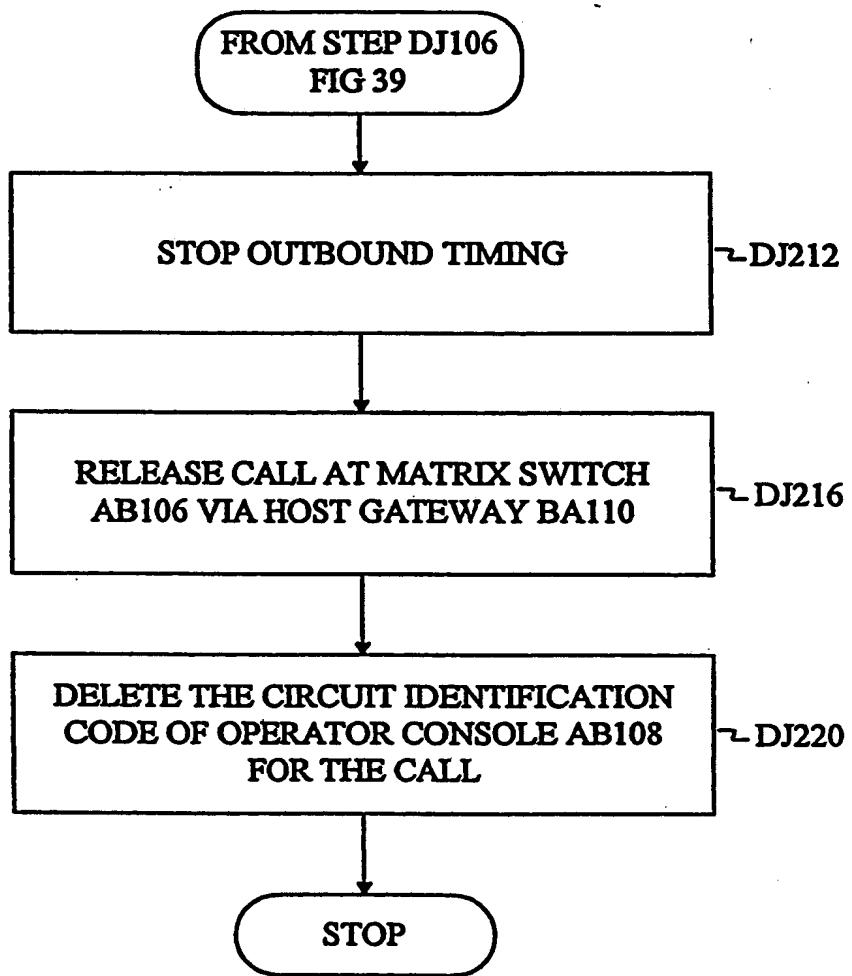


FIG 40

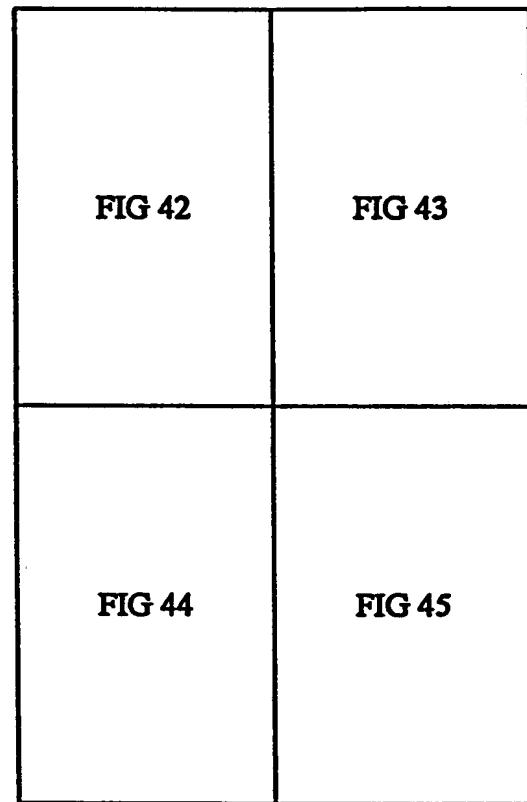


FIG 41

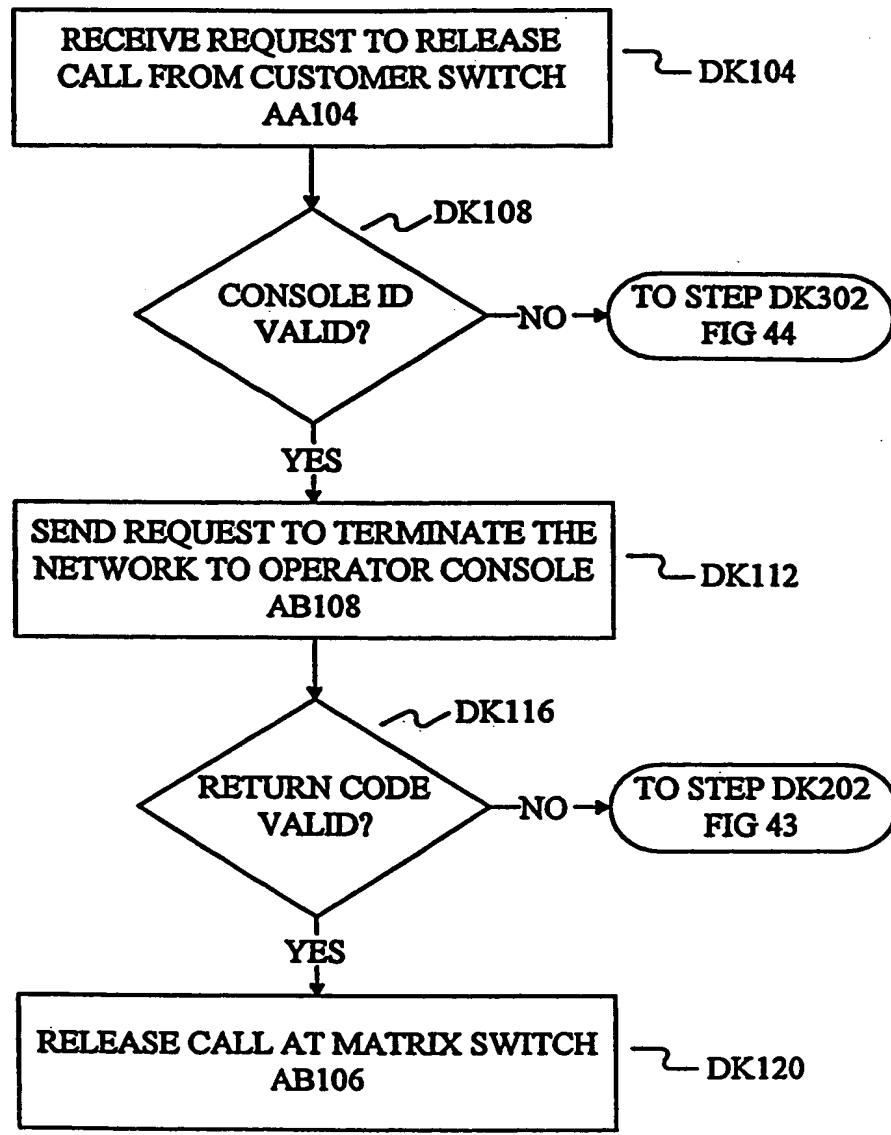


FIG 42

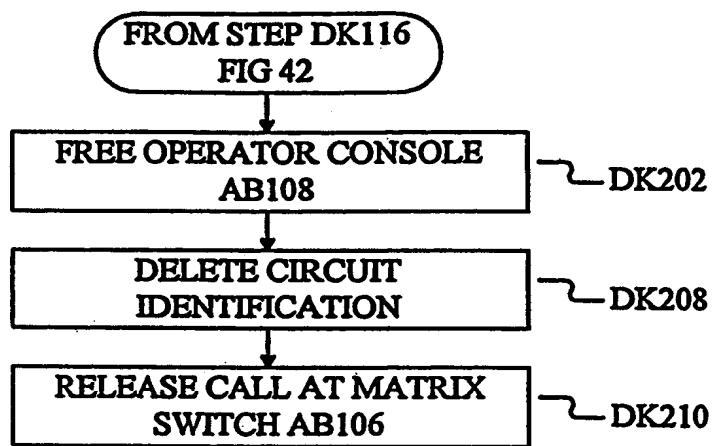


FIG 43

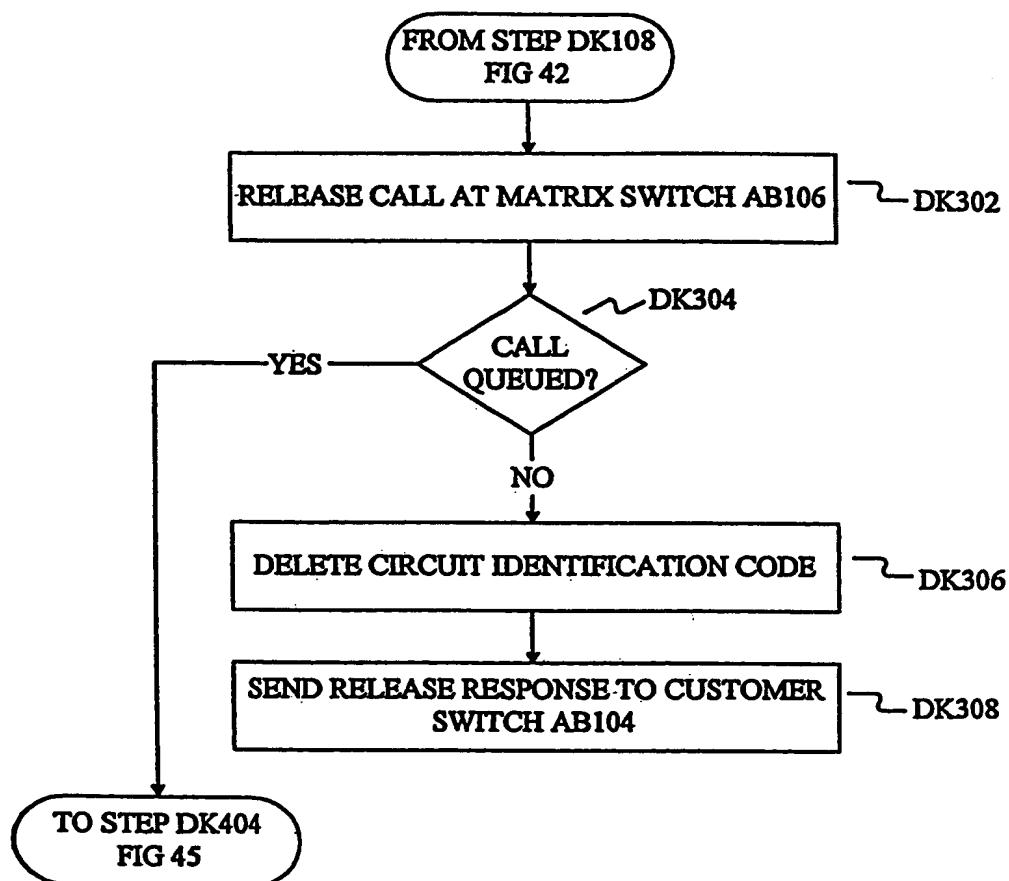


FIG 44

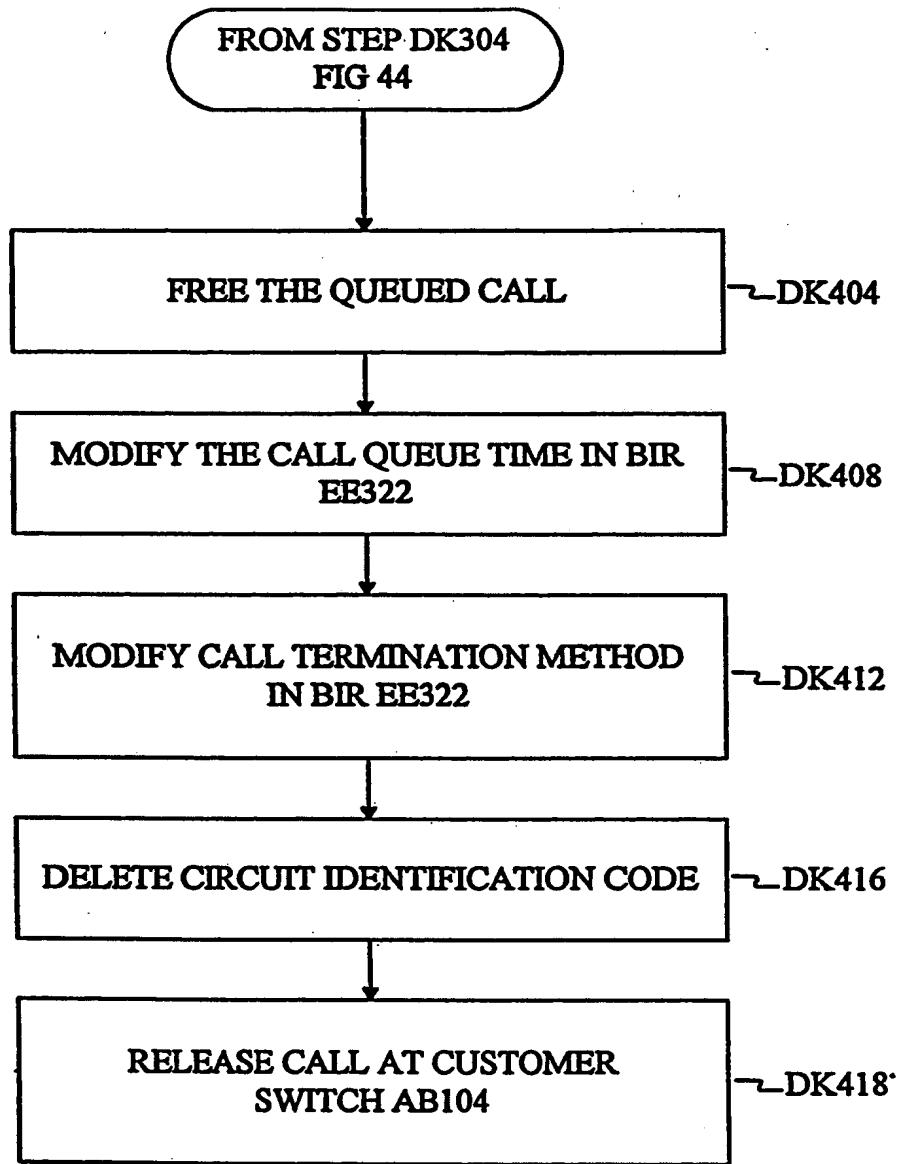


FIG 45

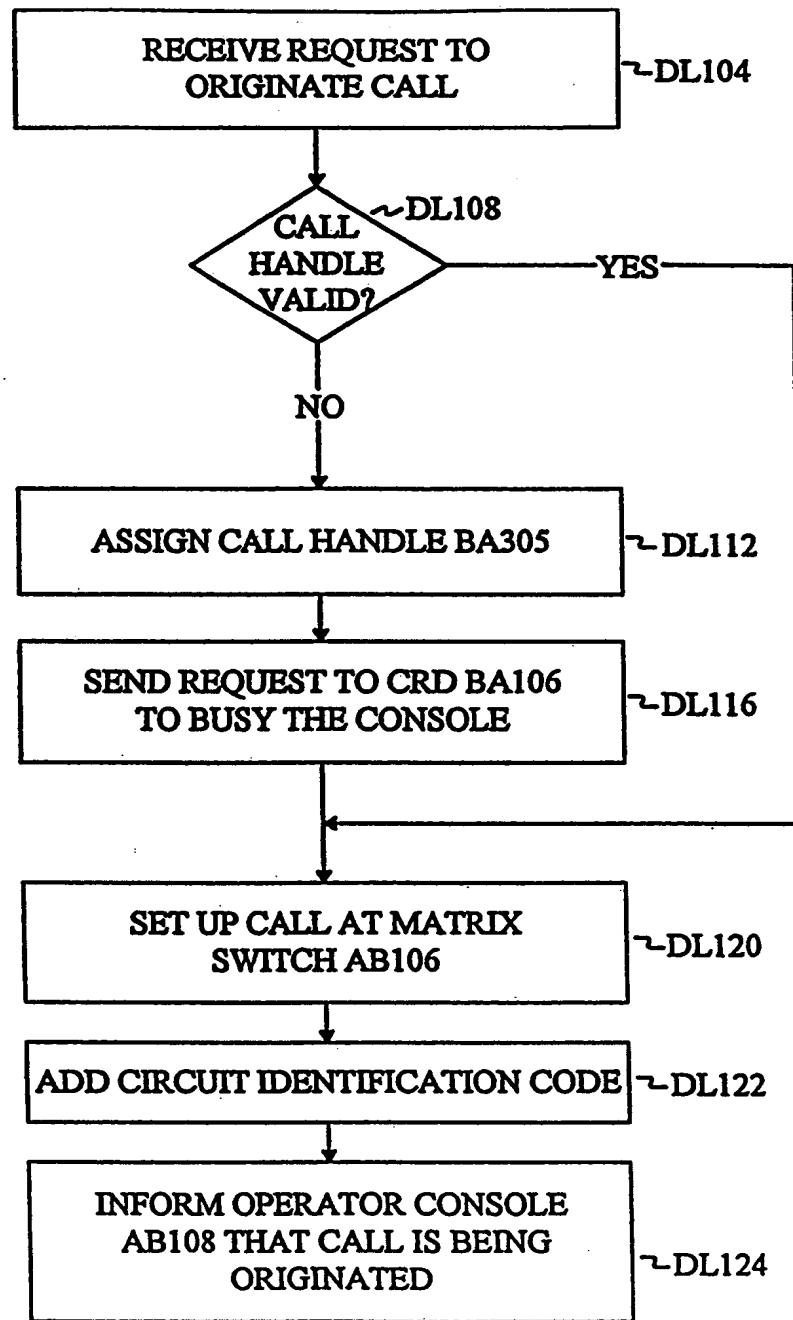


FIG 46

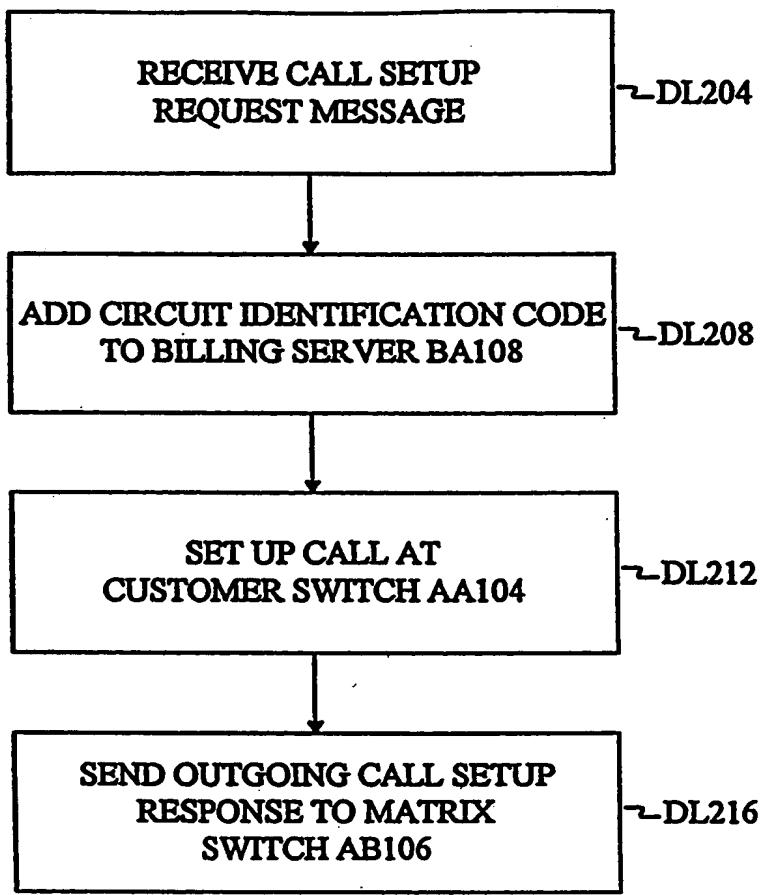


FIG 47

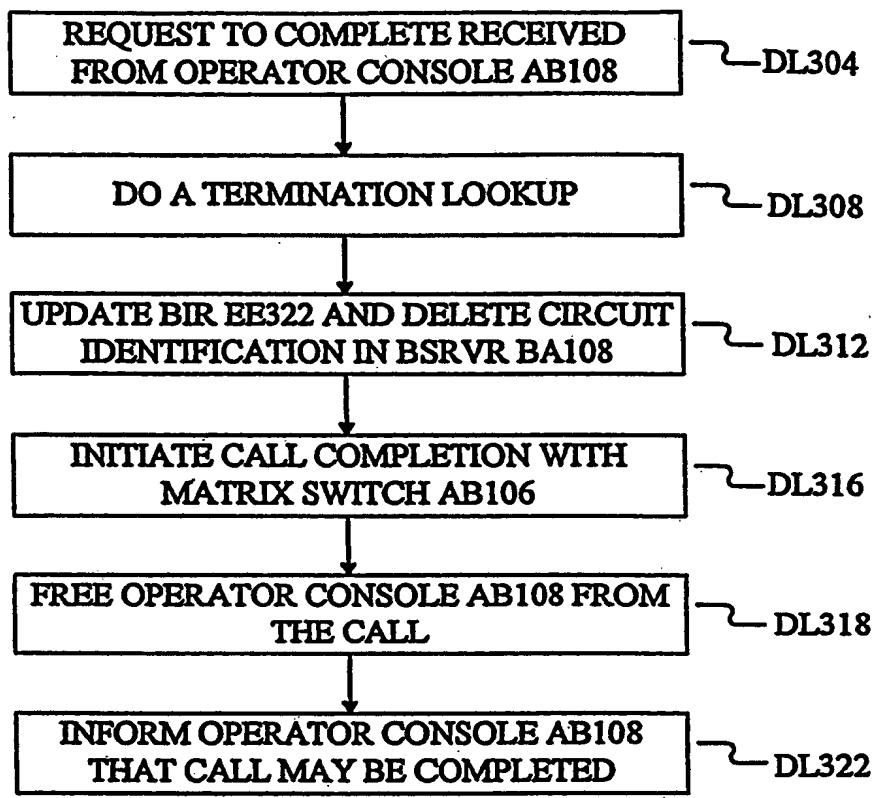


FIG 48

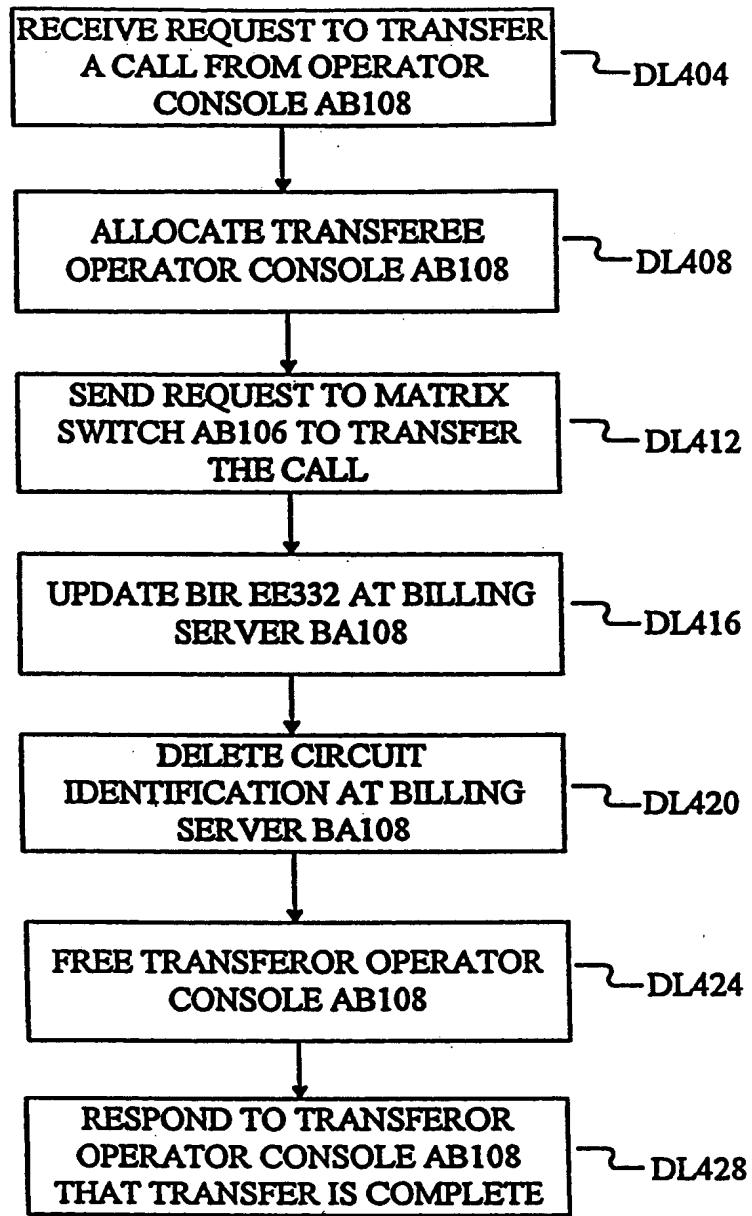


FIG 49

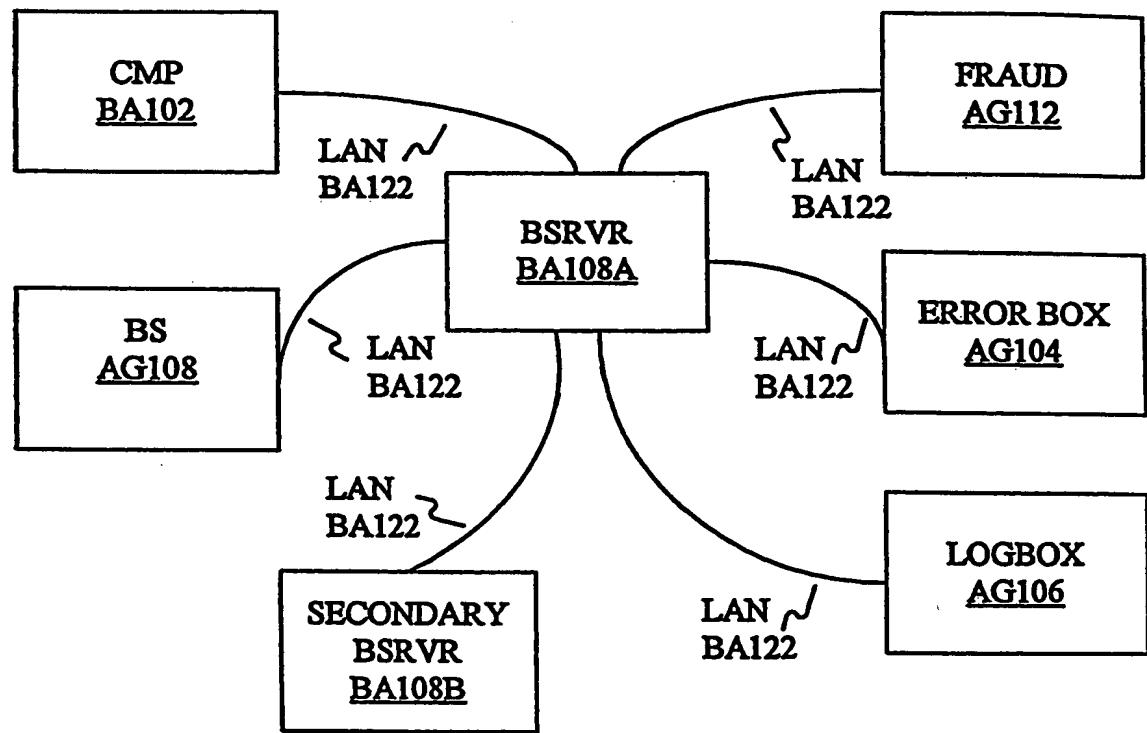


FIG 50

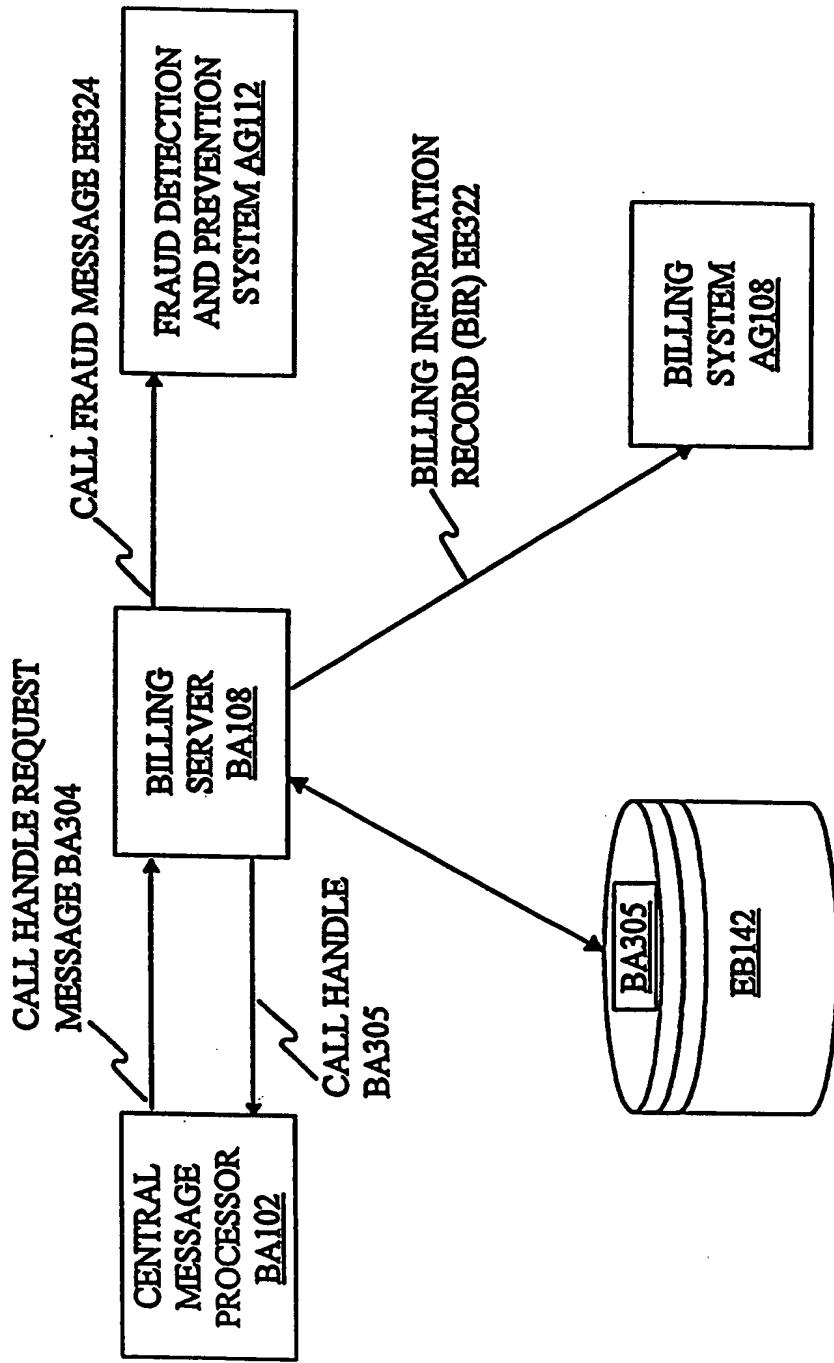


FIG 51

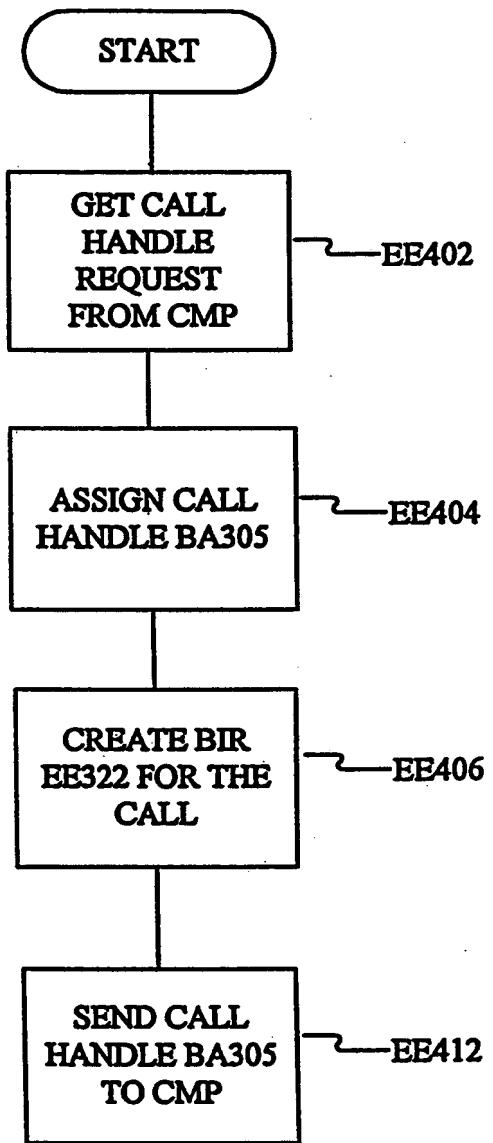


FIG 52

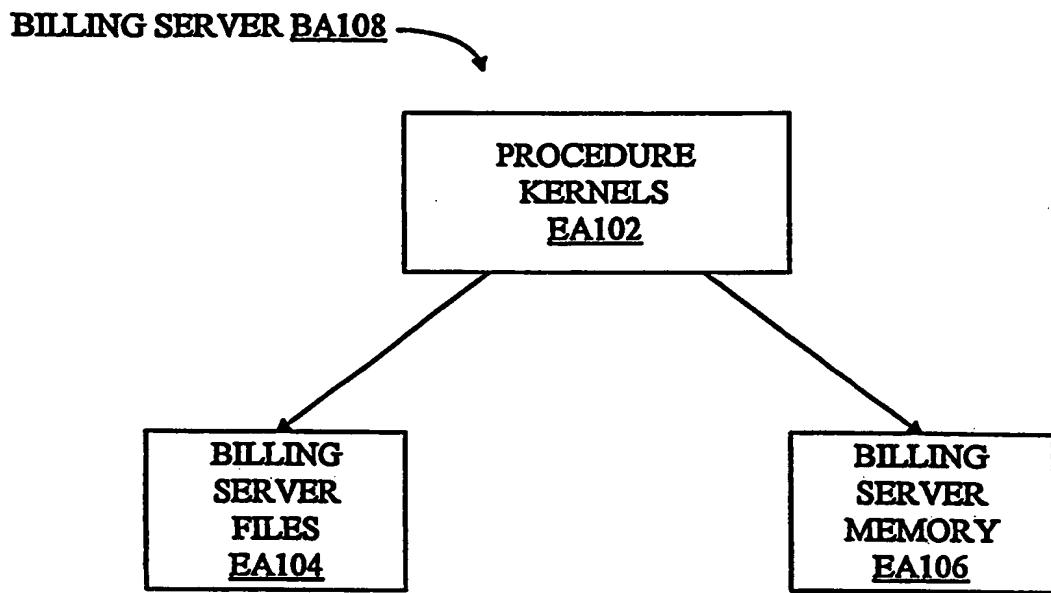


FIG 53

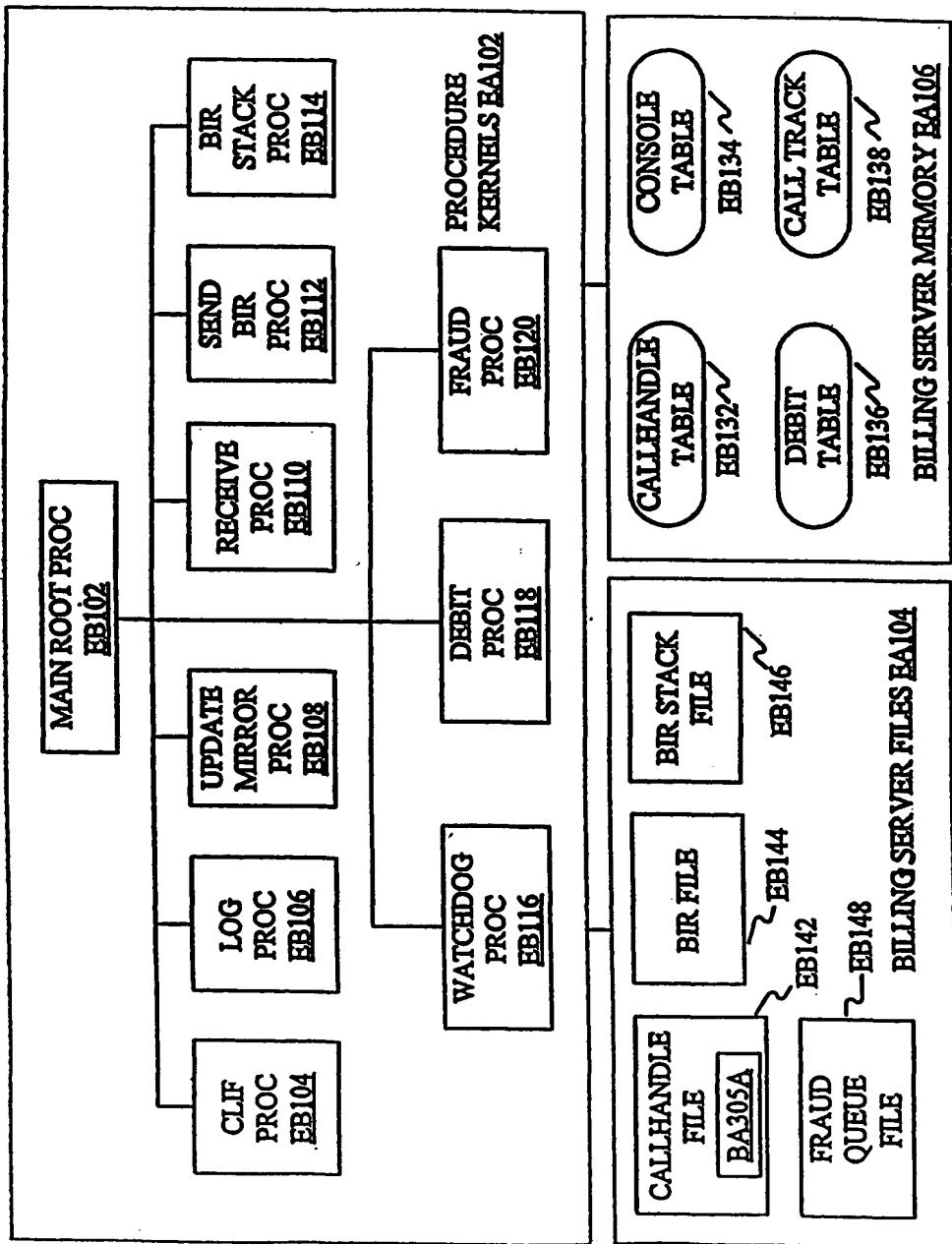


FIG 54

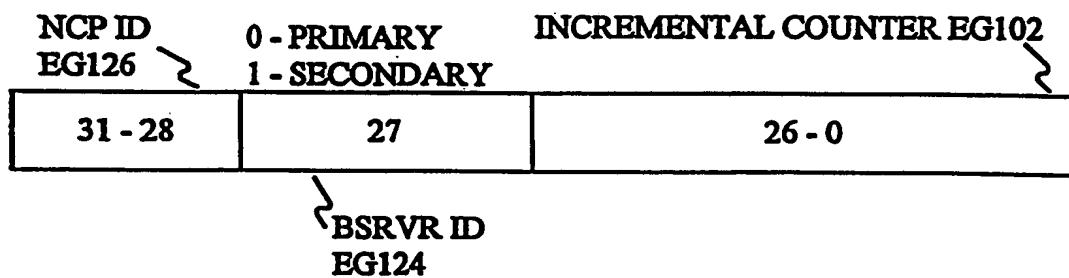


FIG 55

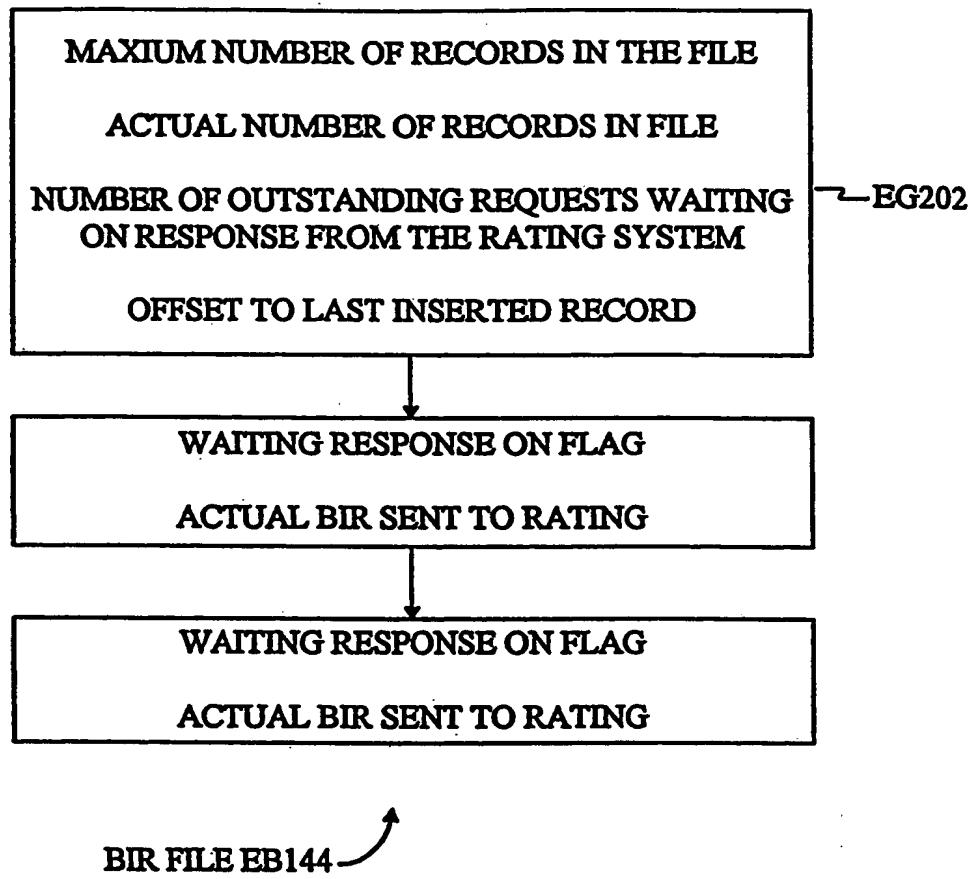


FIG 56

FIG 58

FIG 59

FIG 57

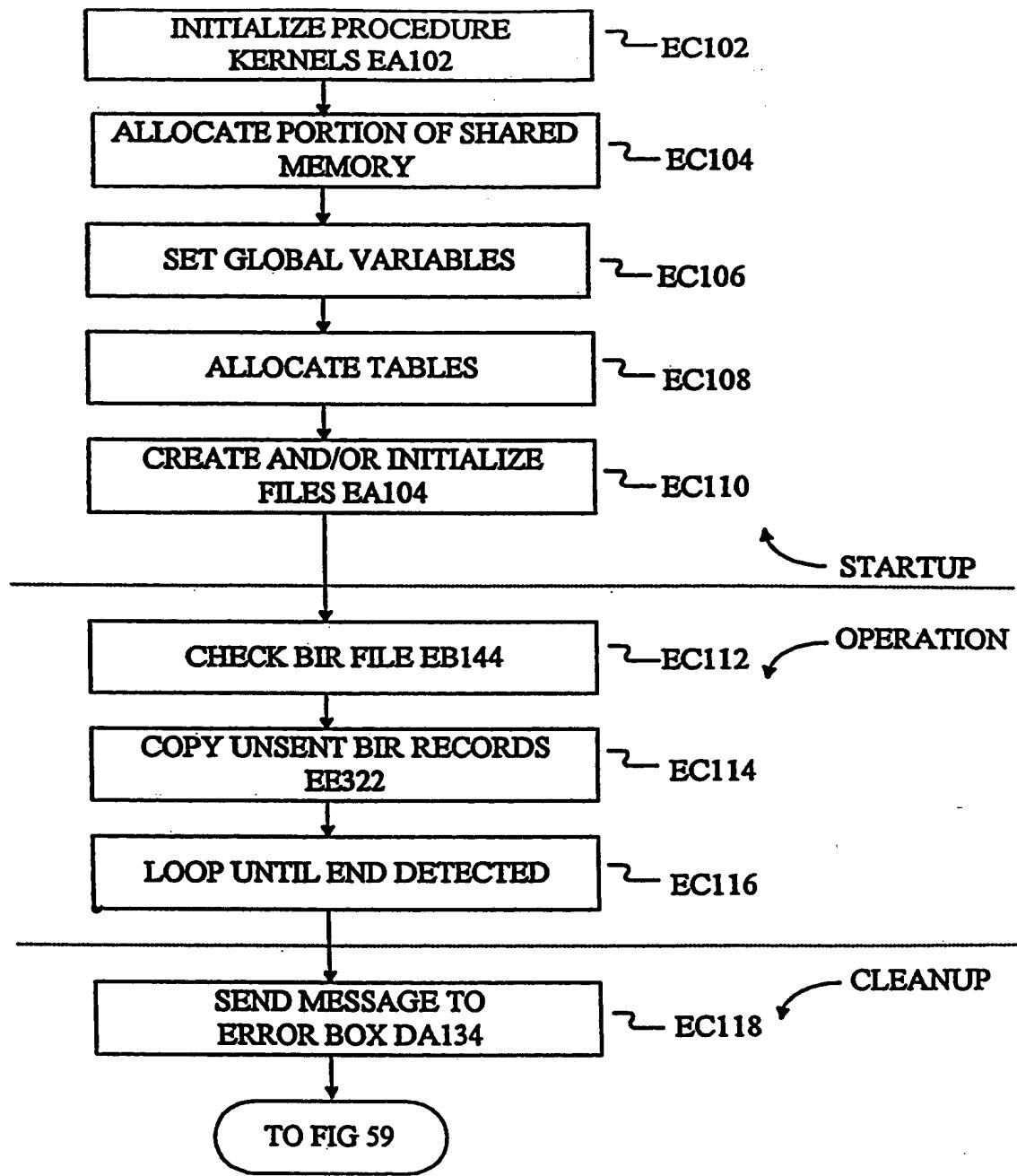


FIG 58

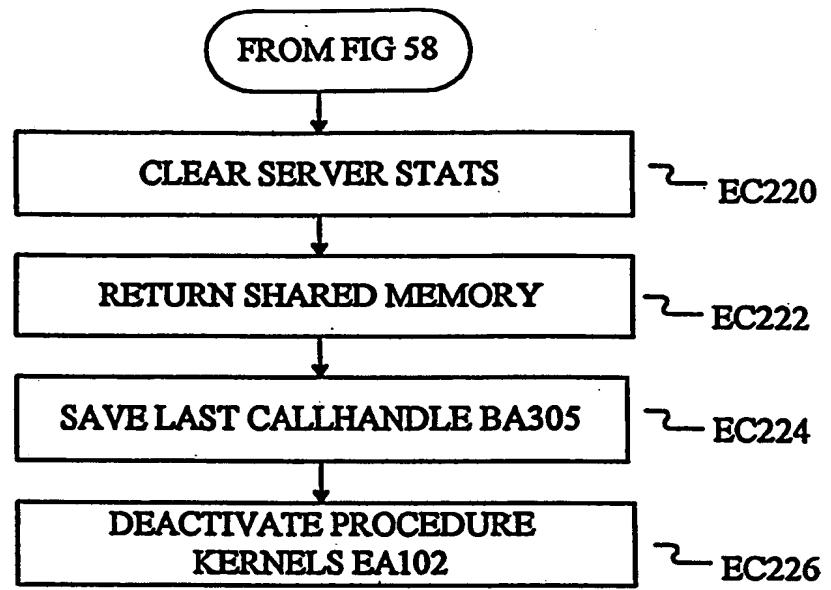


FIG 59

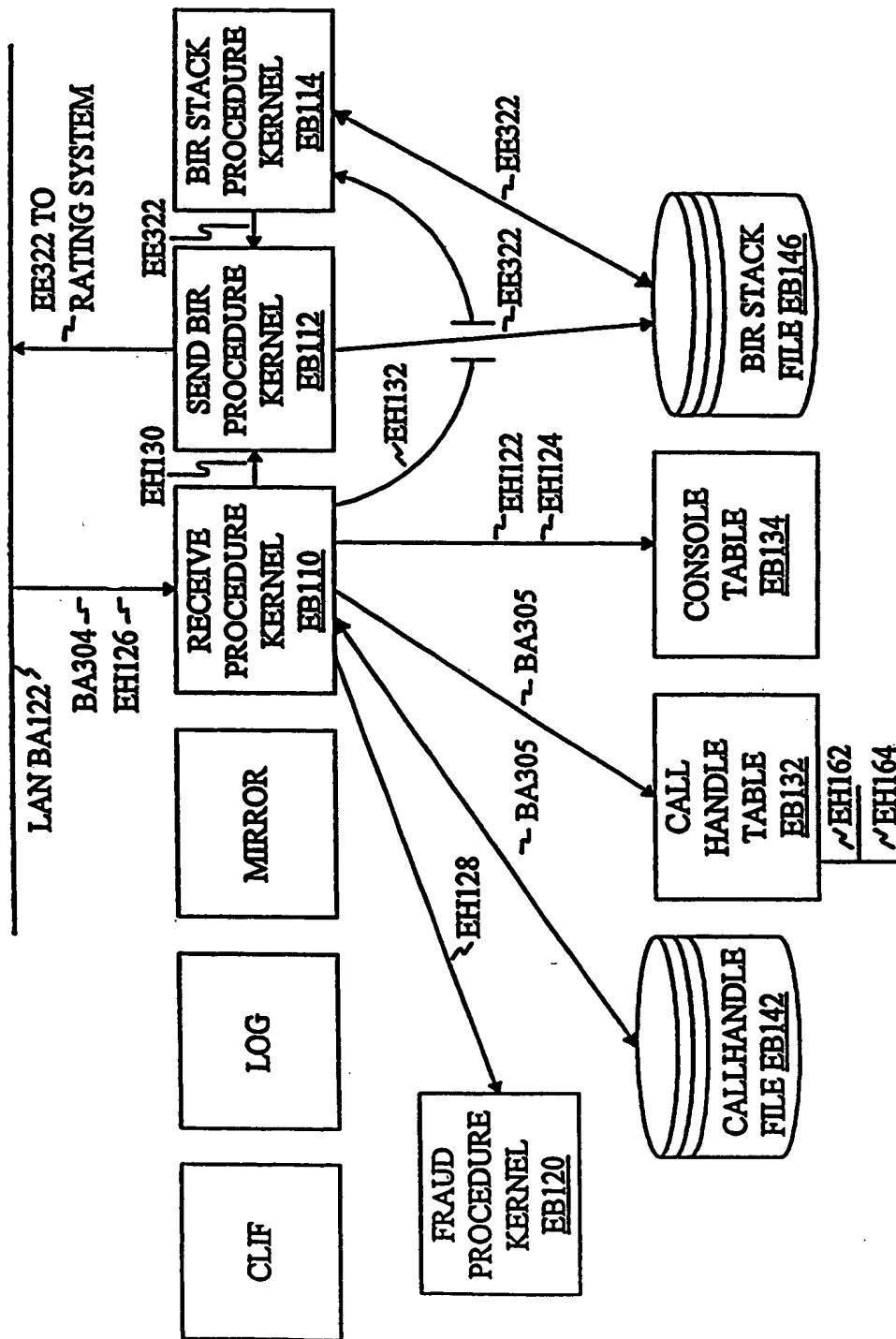


FIG 60

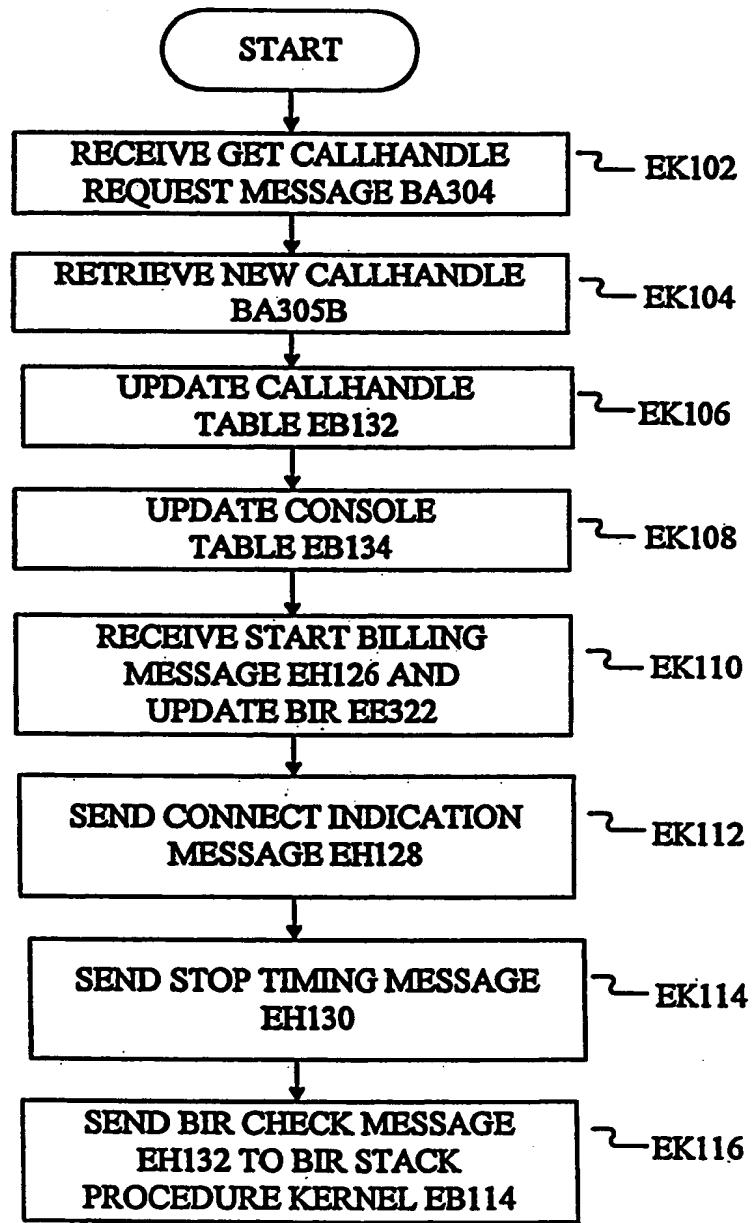


FIG 61

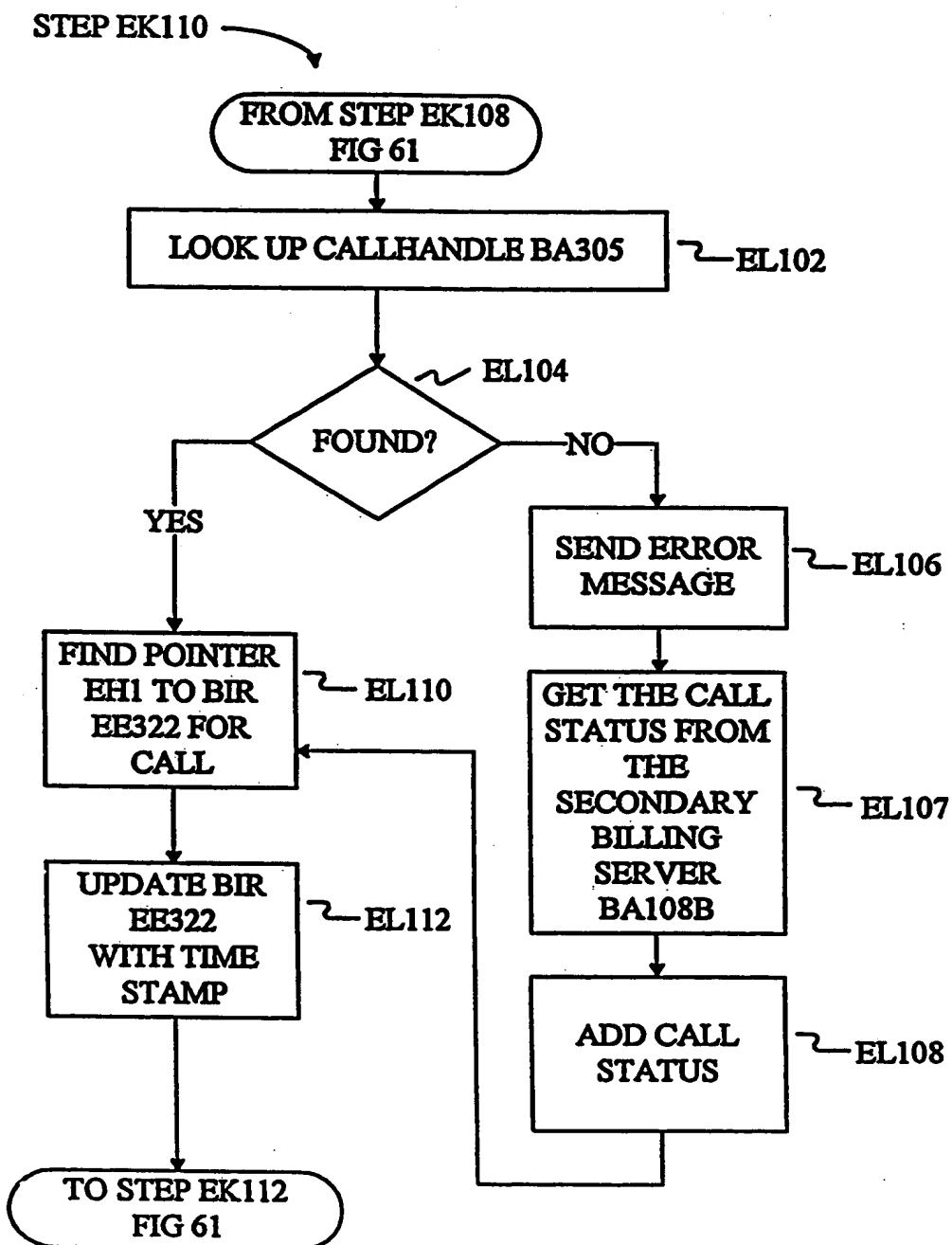


FIG 62

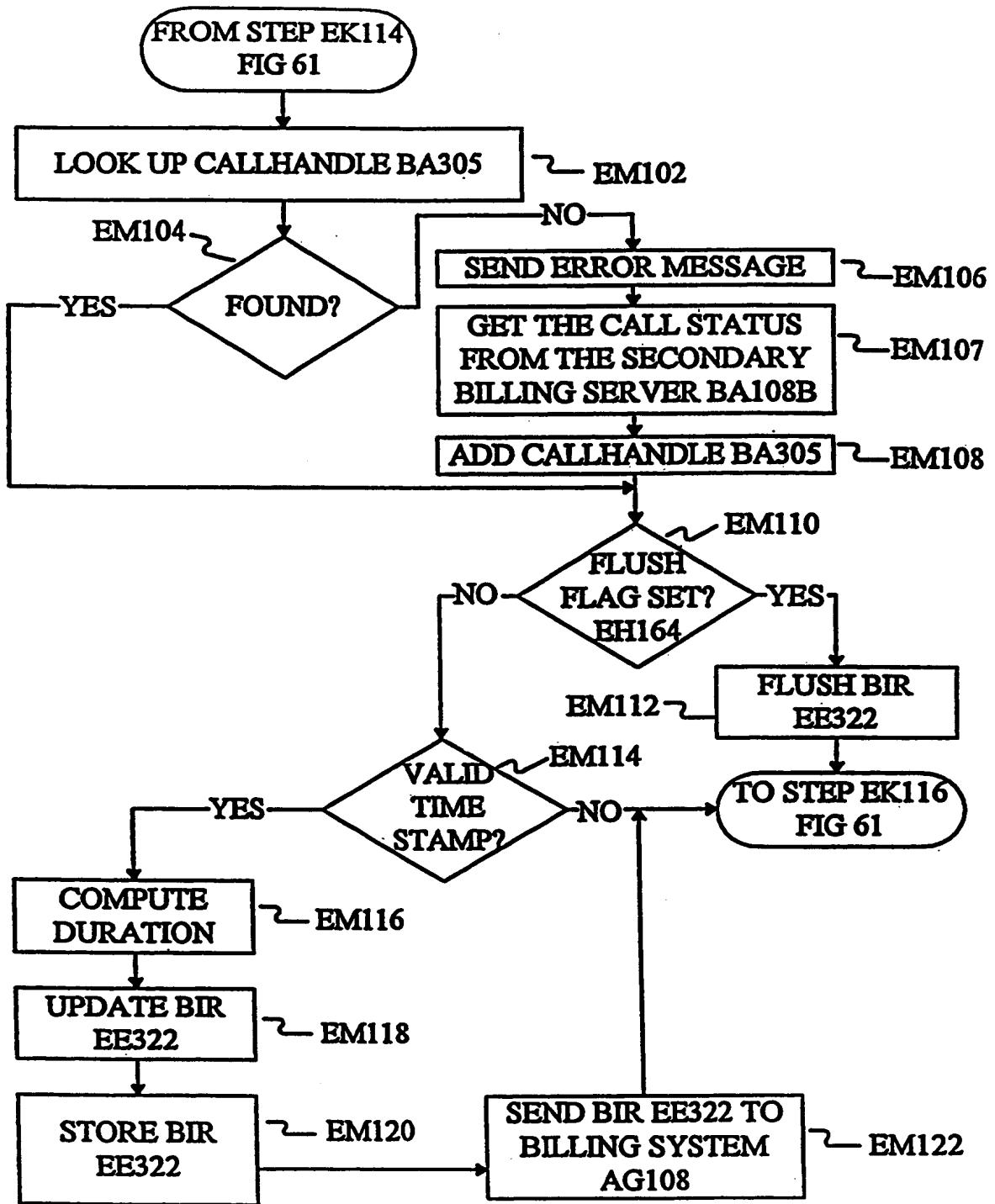


FIG 63

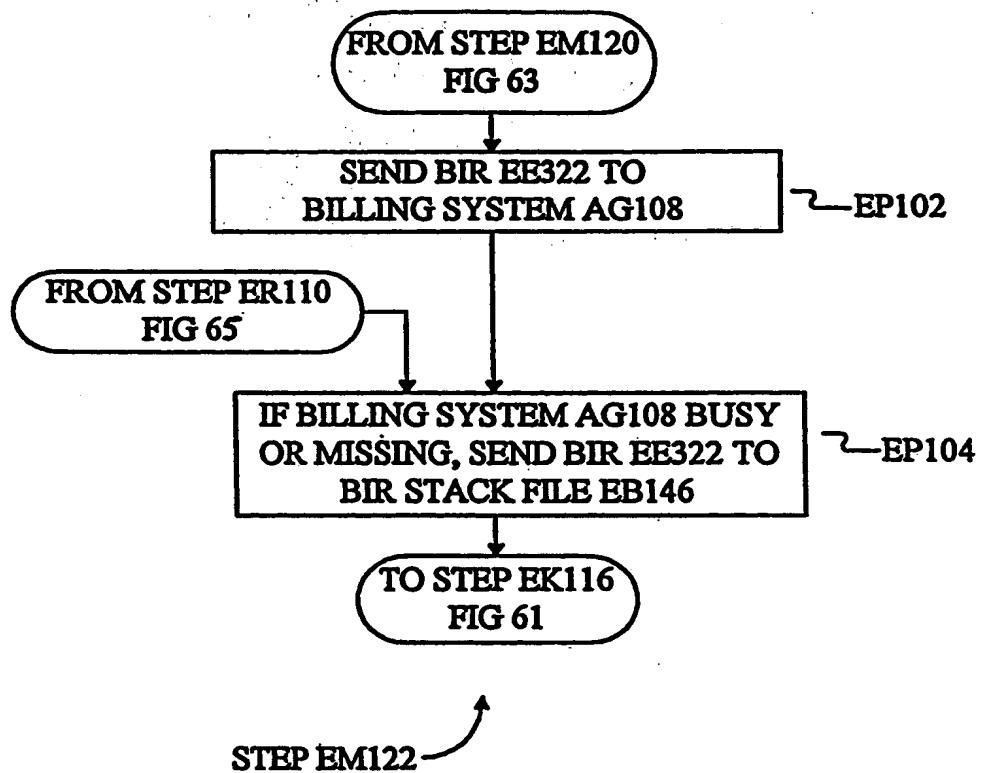


FIG 64

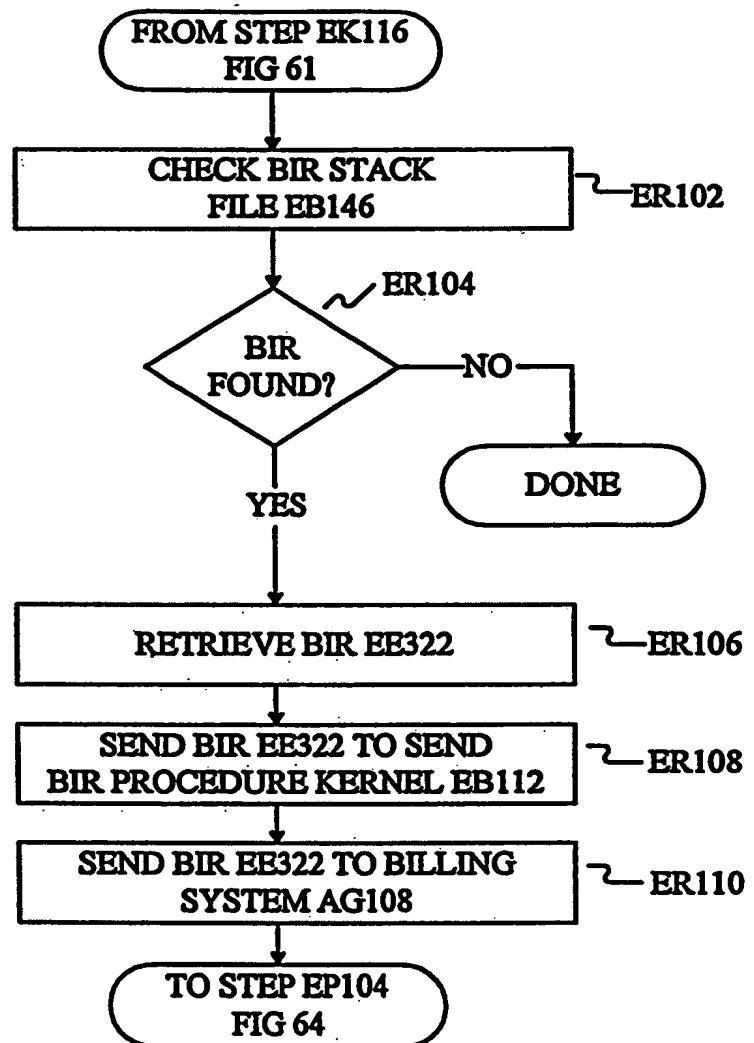


FIG 65

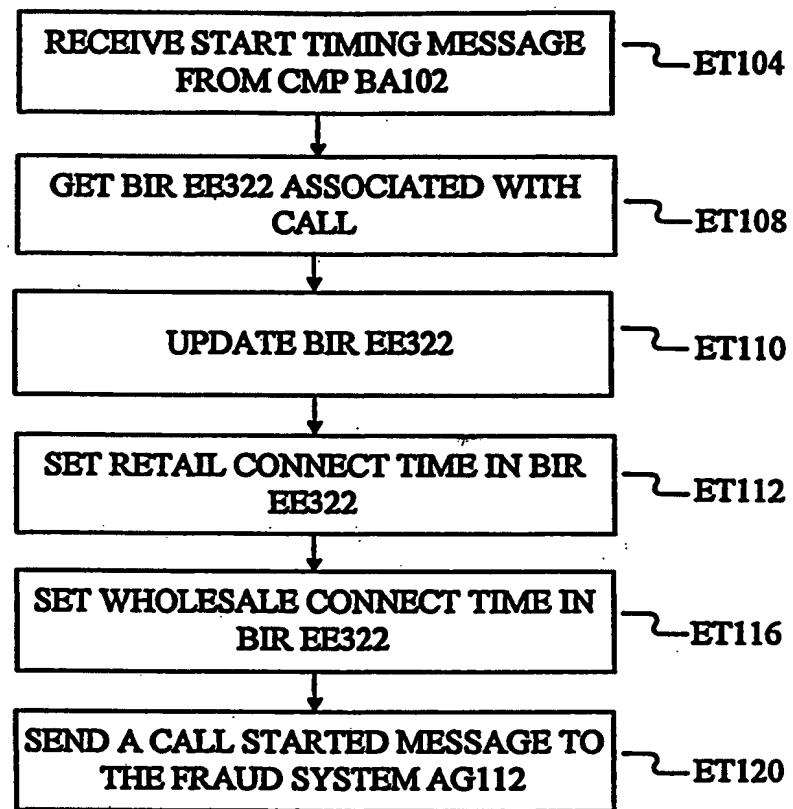


FIG 66

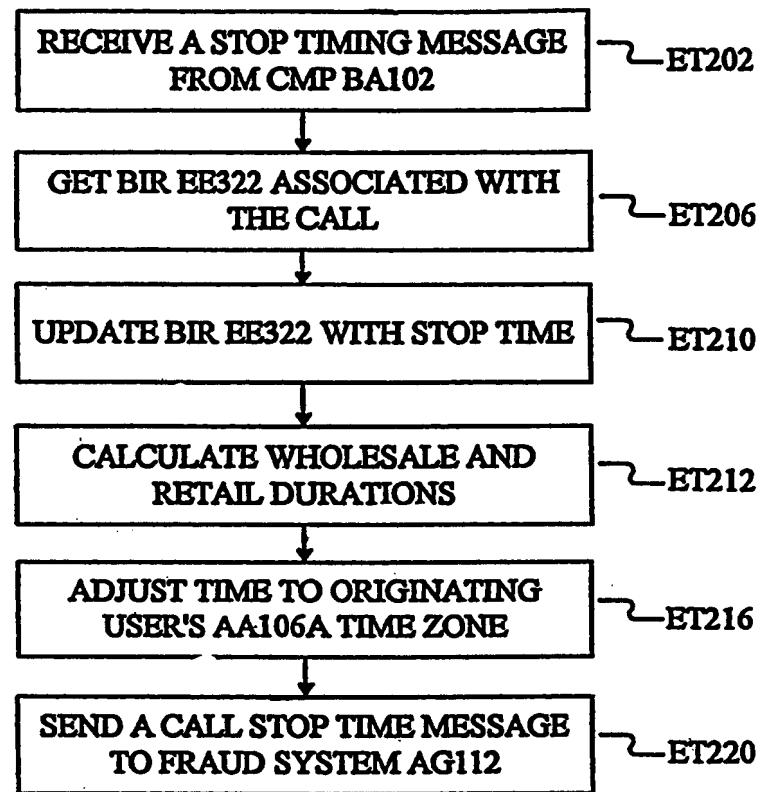


FIG 67

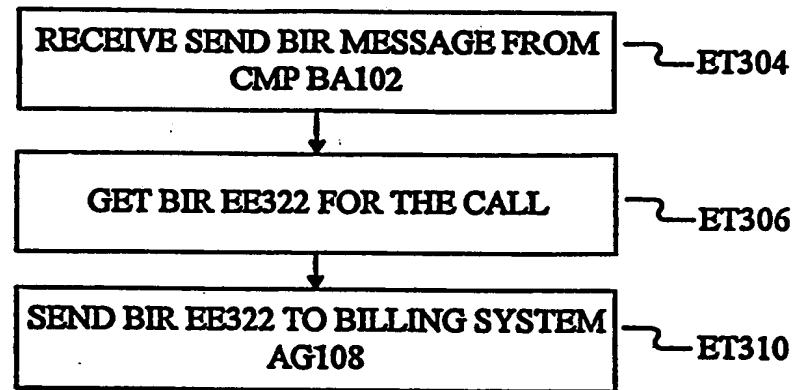


FIG 68

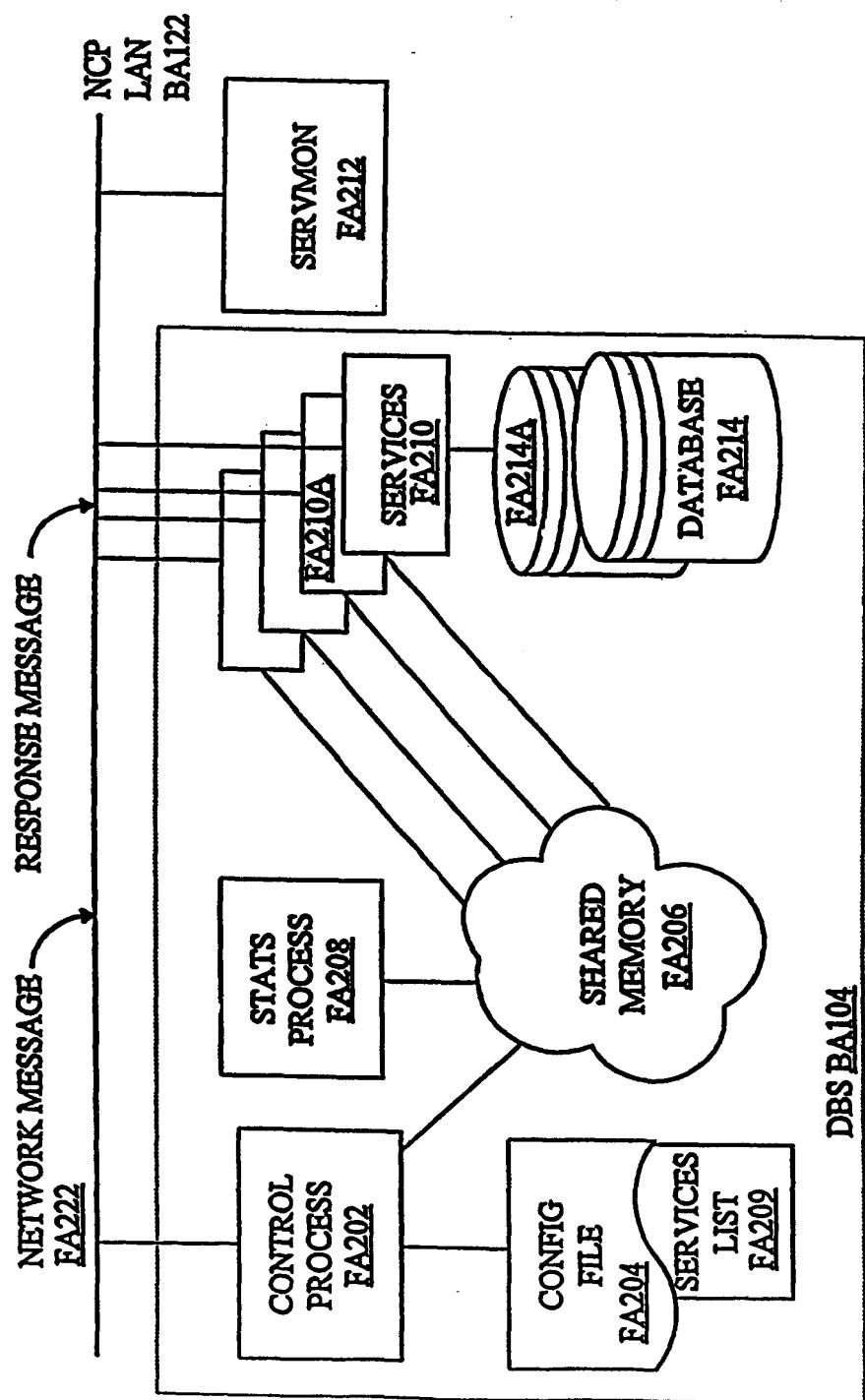


FIG 69

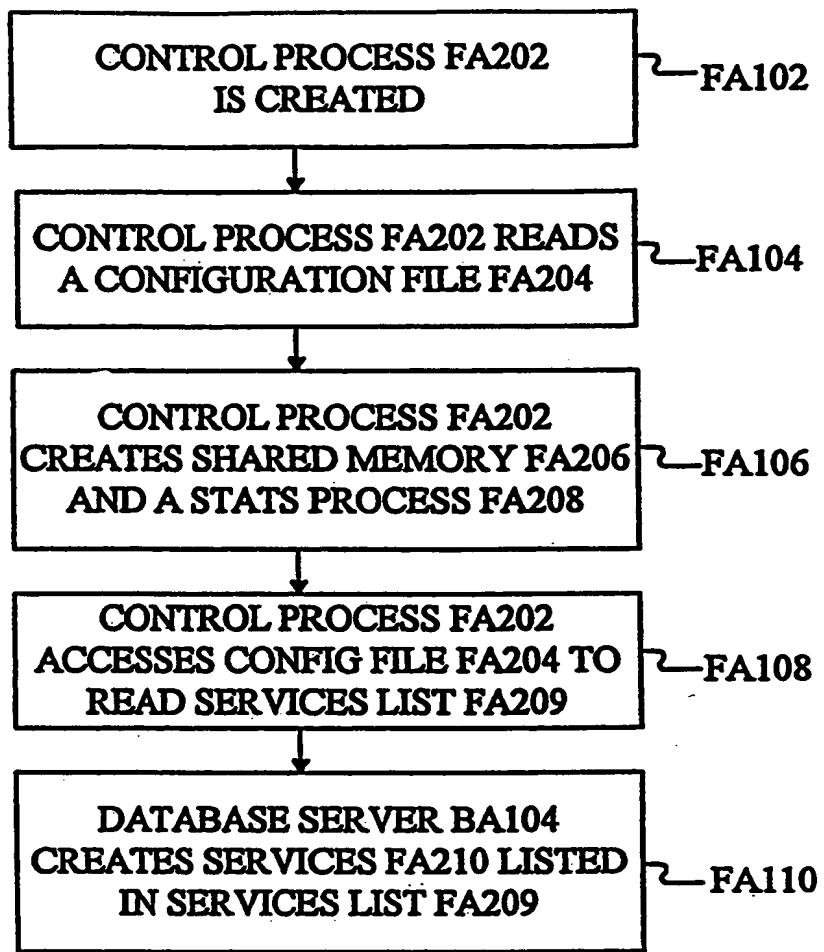


FIG 70

FIG 72

FIG 73

FIG 71

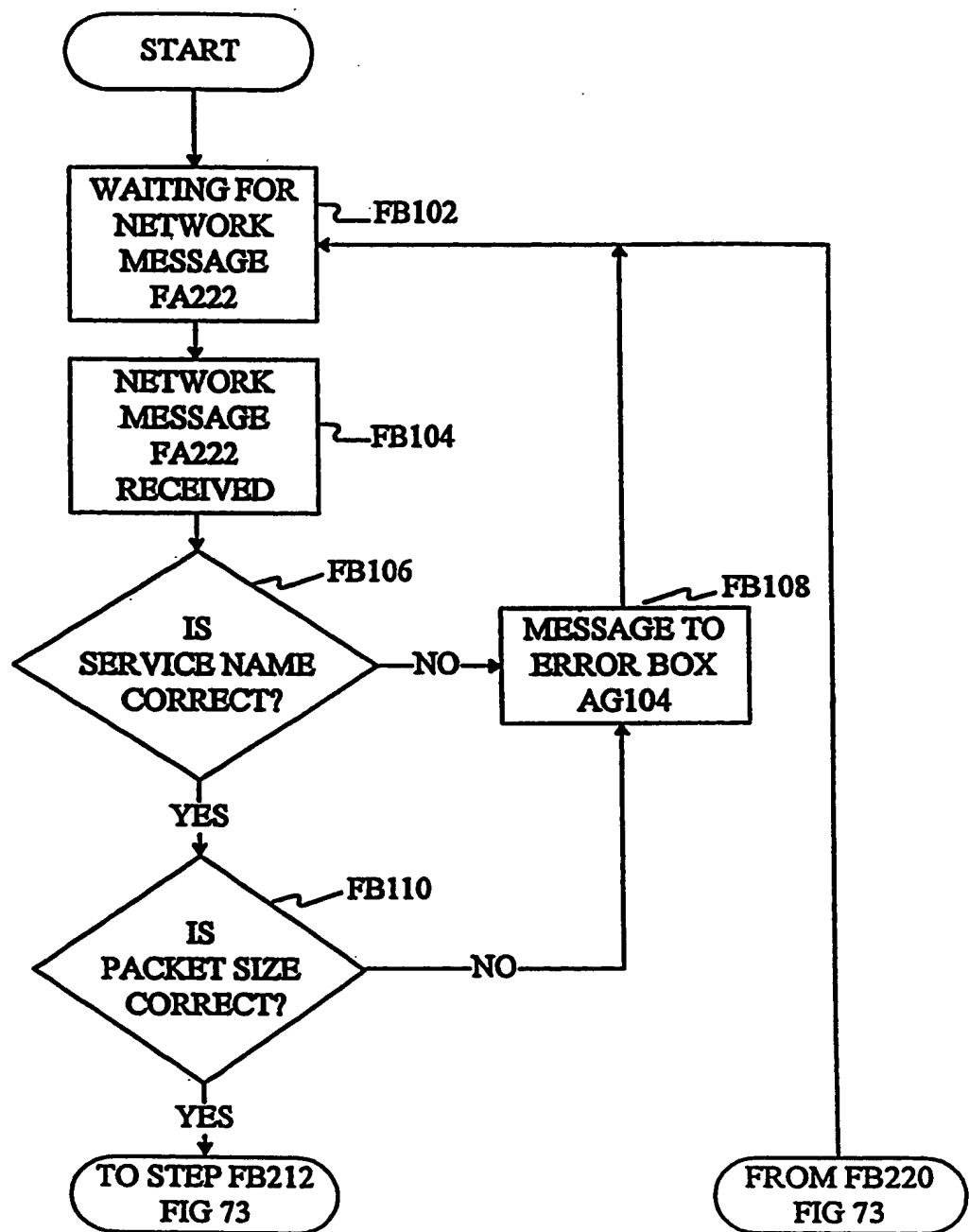


FIG 72

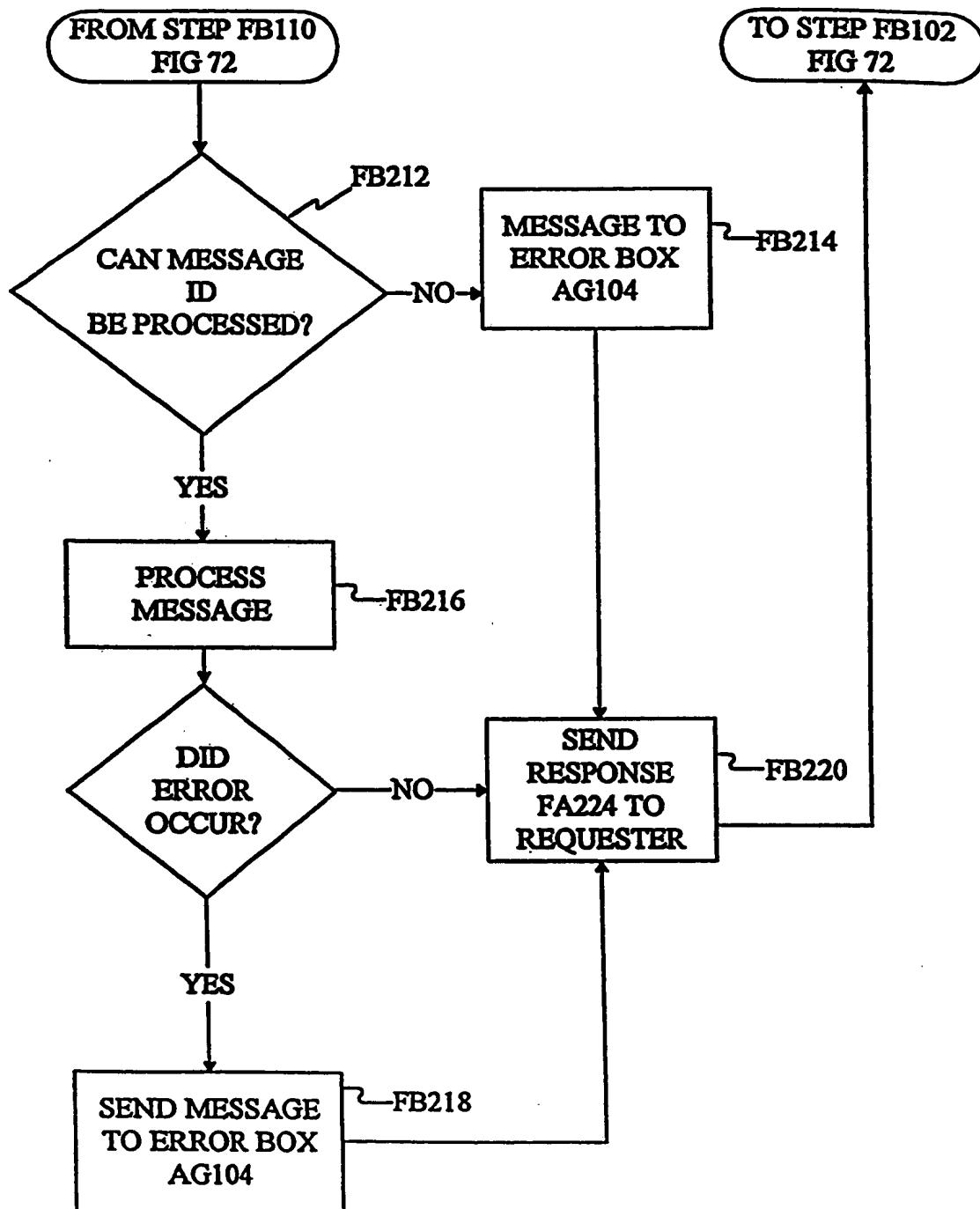


FIG 73

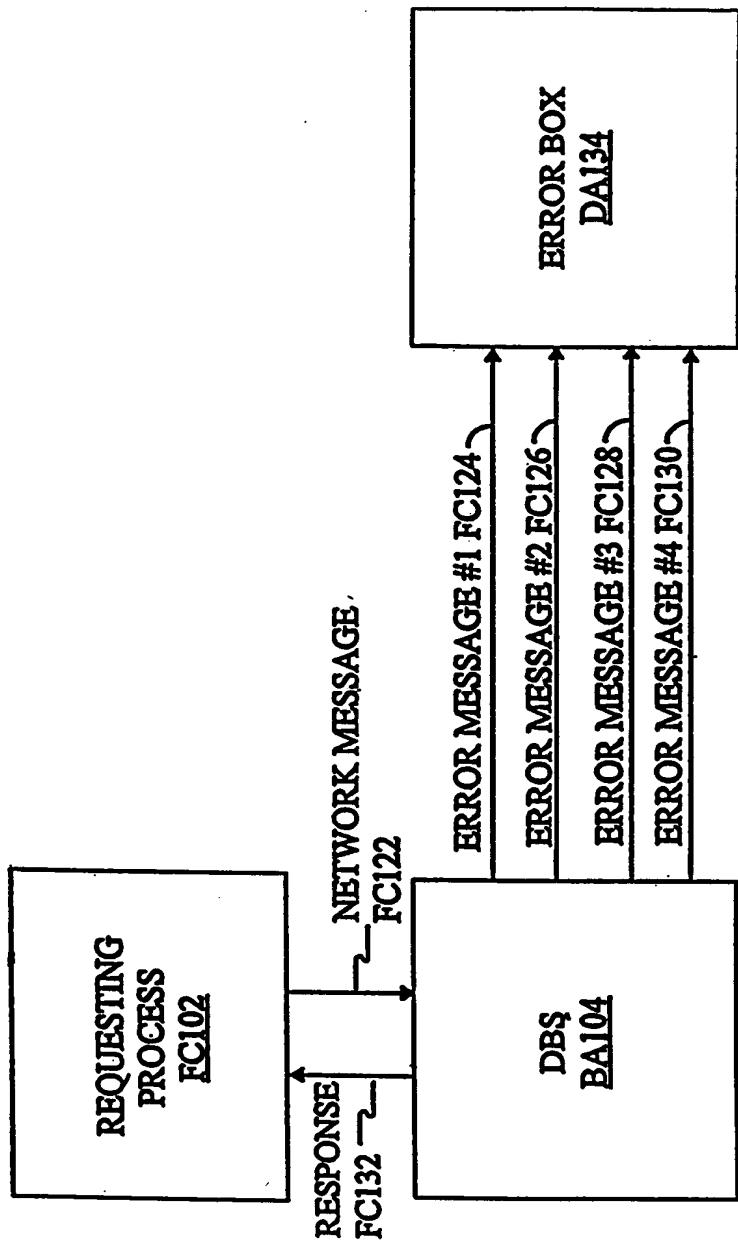


FIG 74

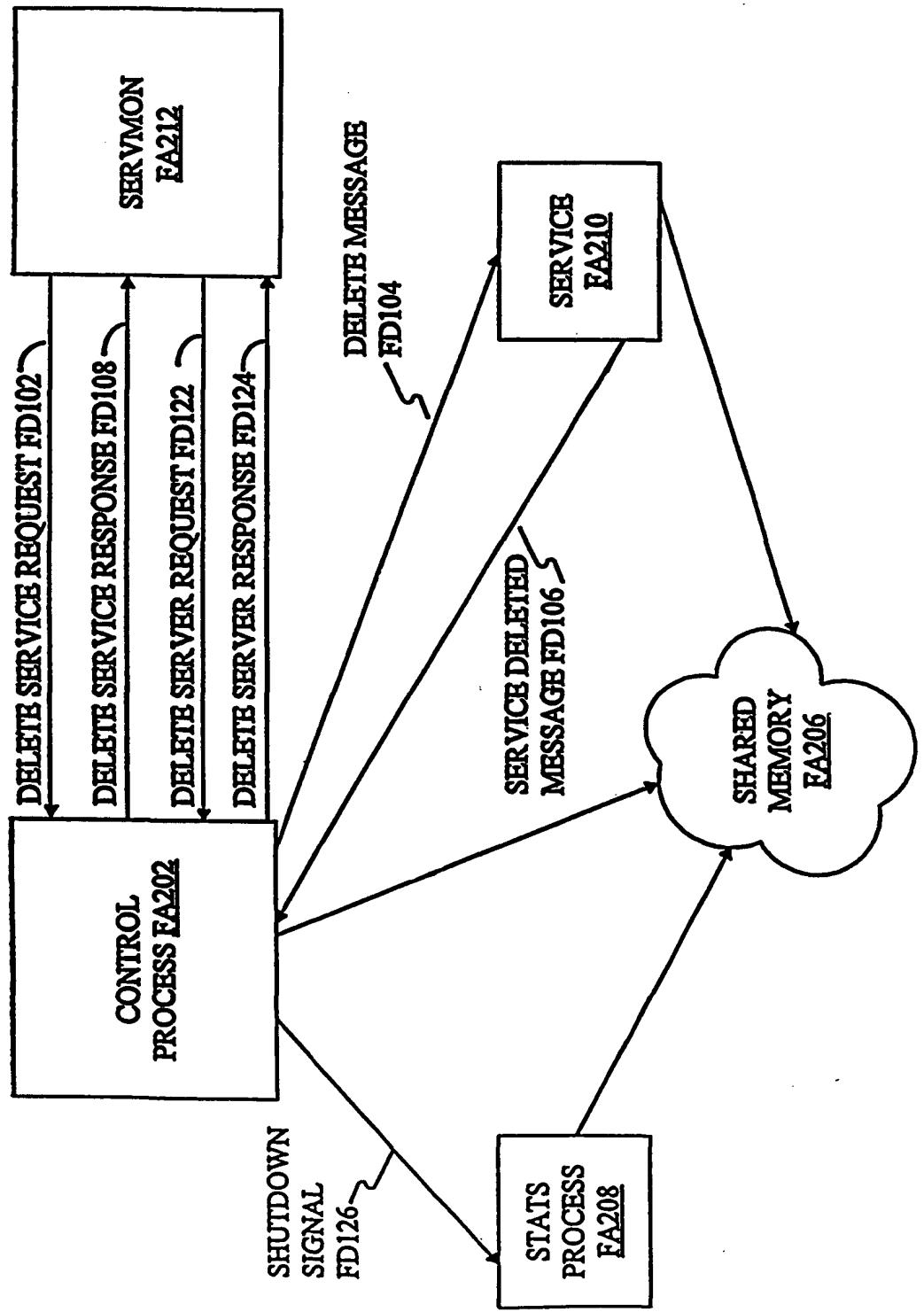


FIG 75

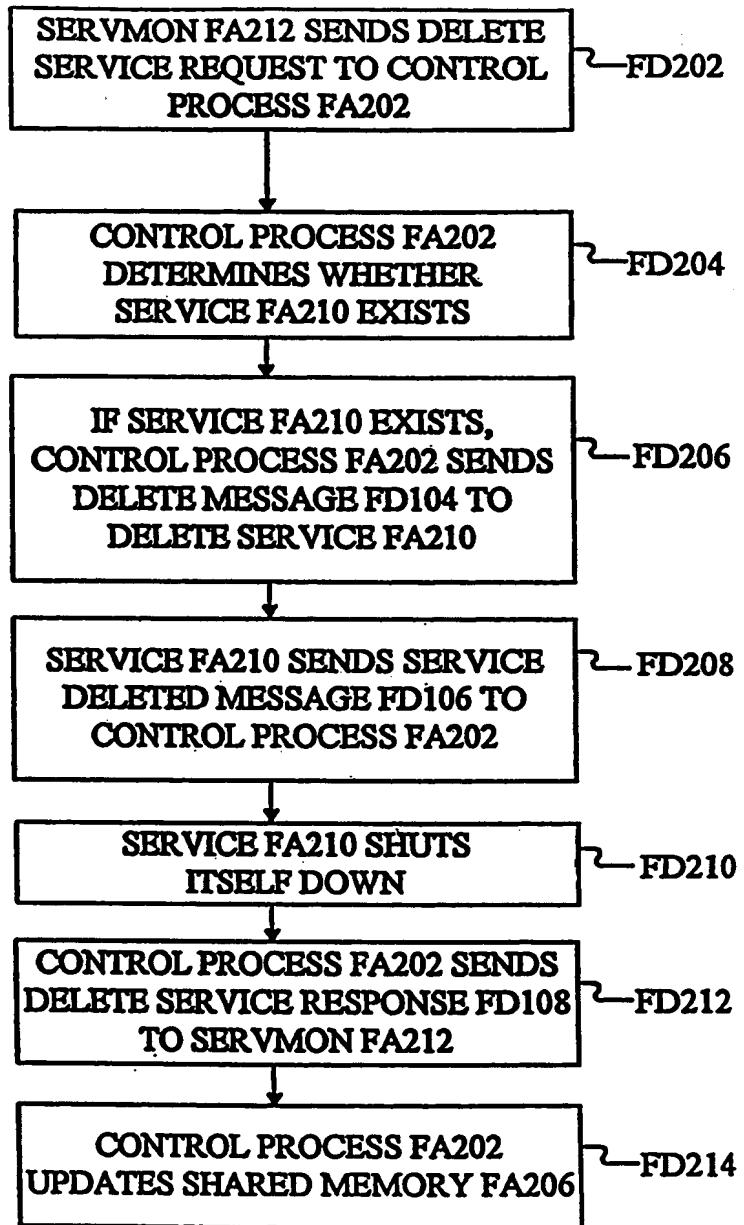


FIG 76

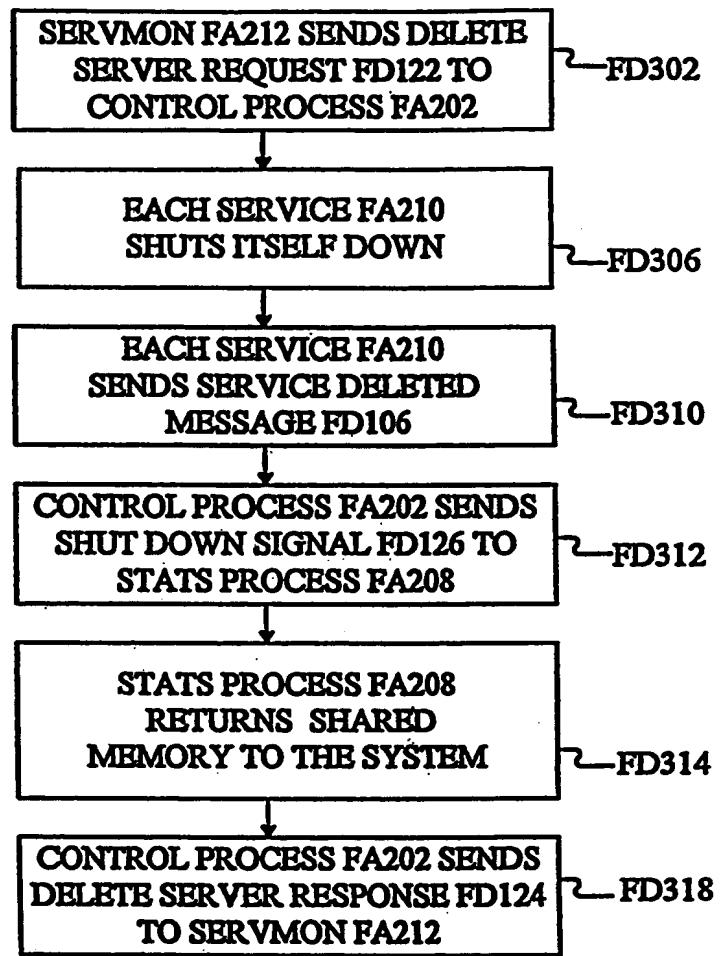


FIG 77

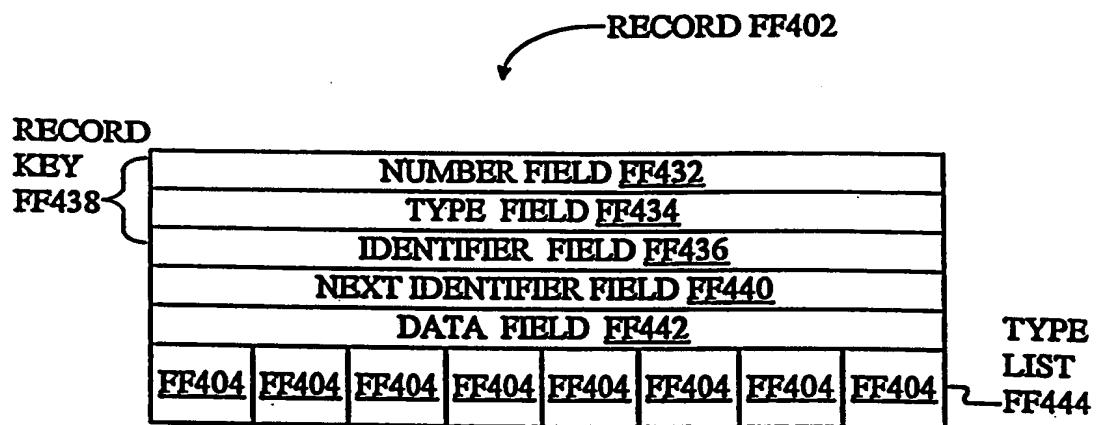


FIG 78A

SEARCH KEY FF802

NUMBER FIELD FF832

TYPE FIELD FF834

IDENTIFIER FF836

DEFAULT RECORD FF804

DEFAULT DATA FF844

FIG 78B

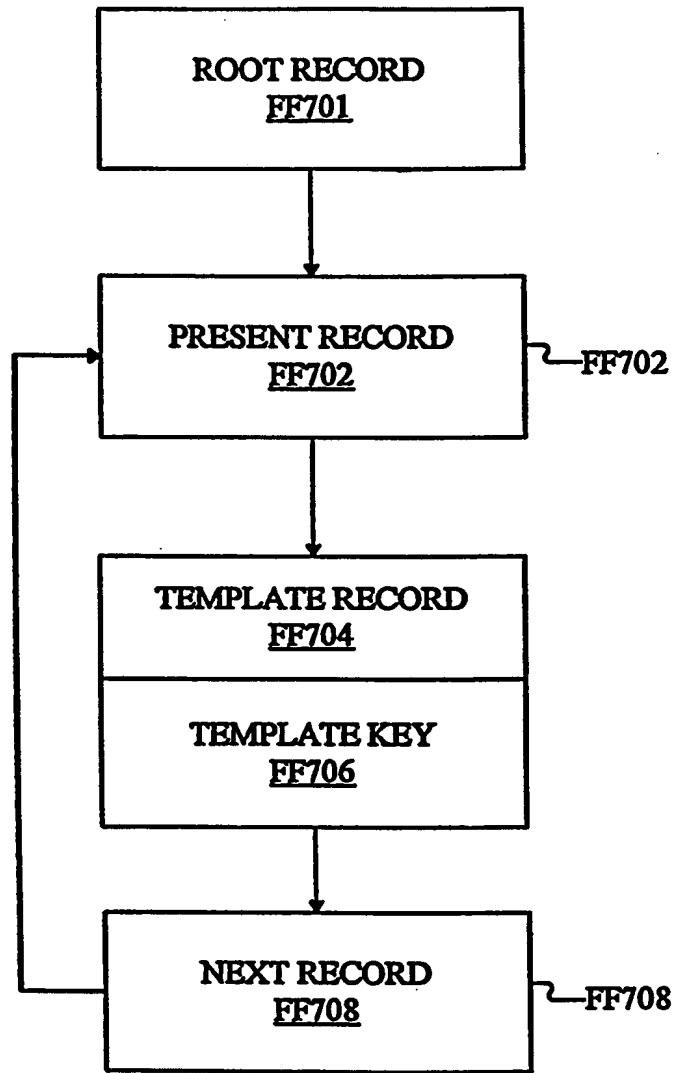


FIG 79

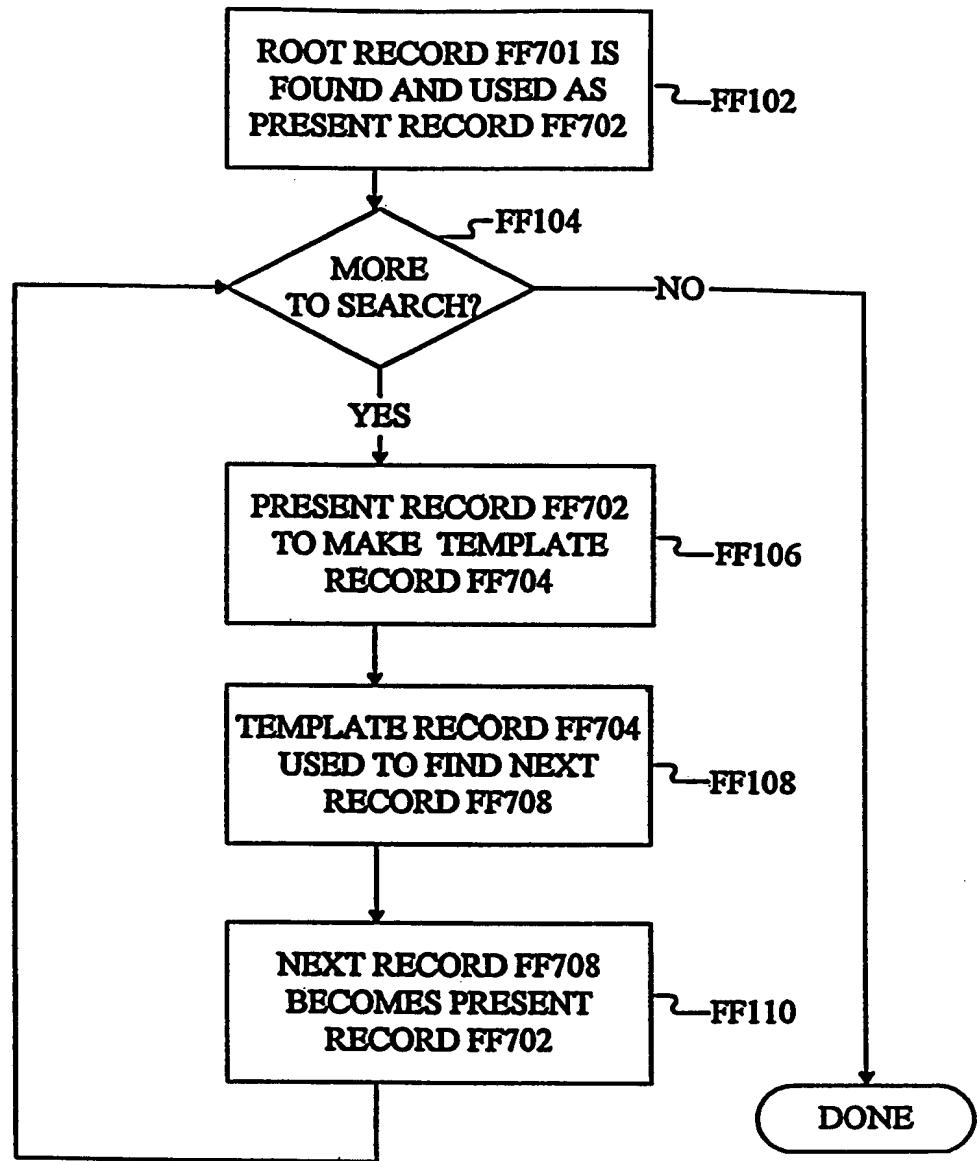


FIG 80

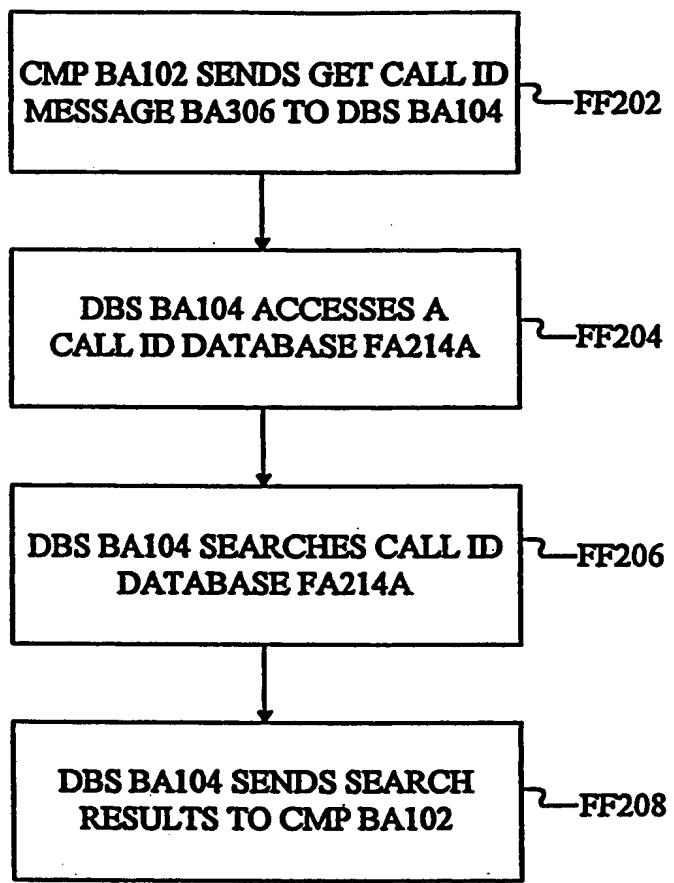
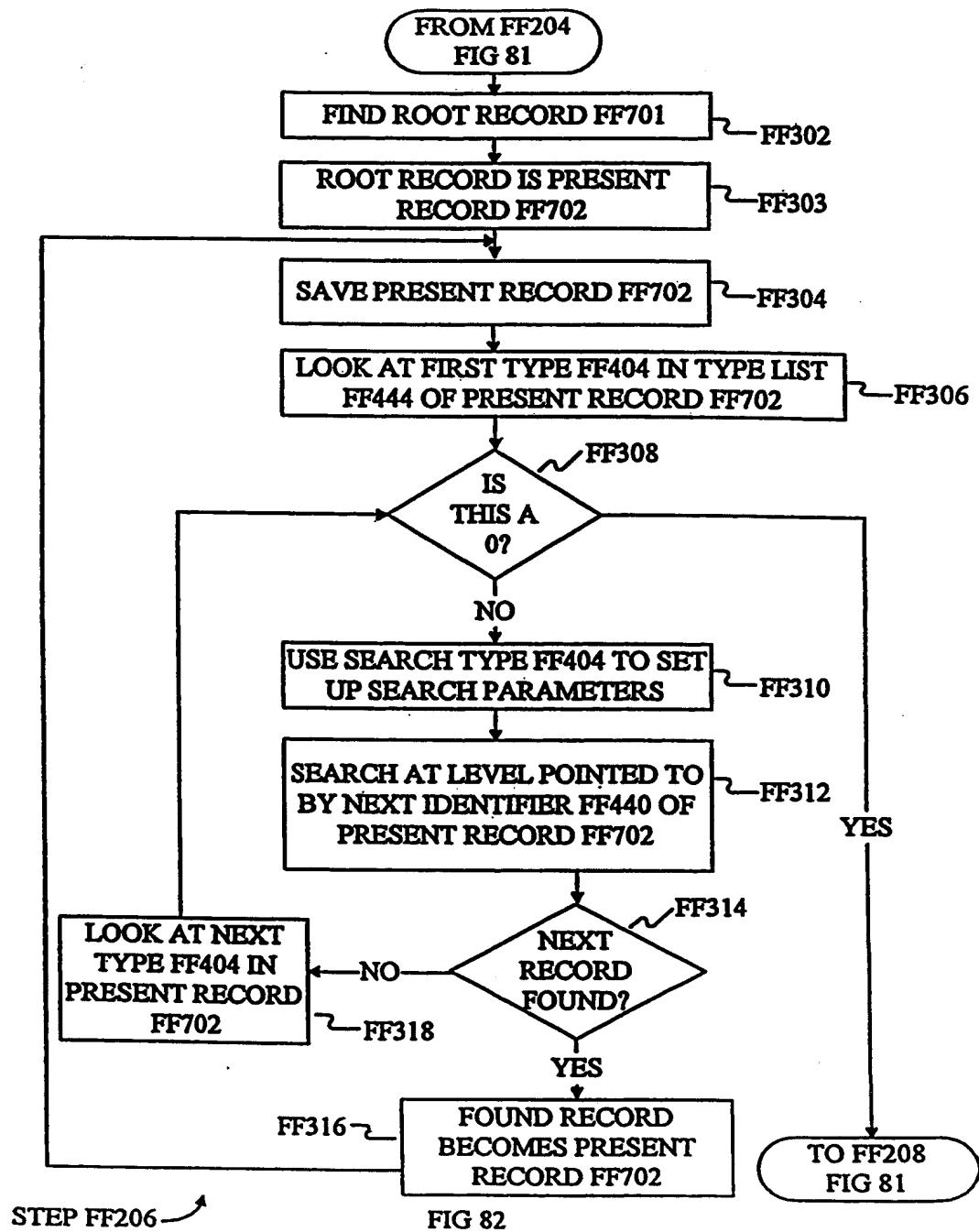


FIG 81



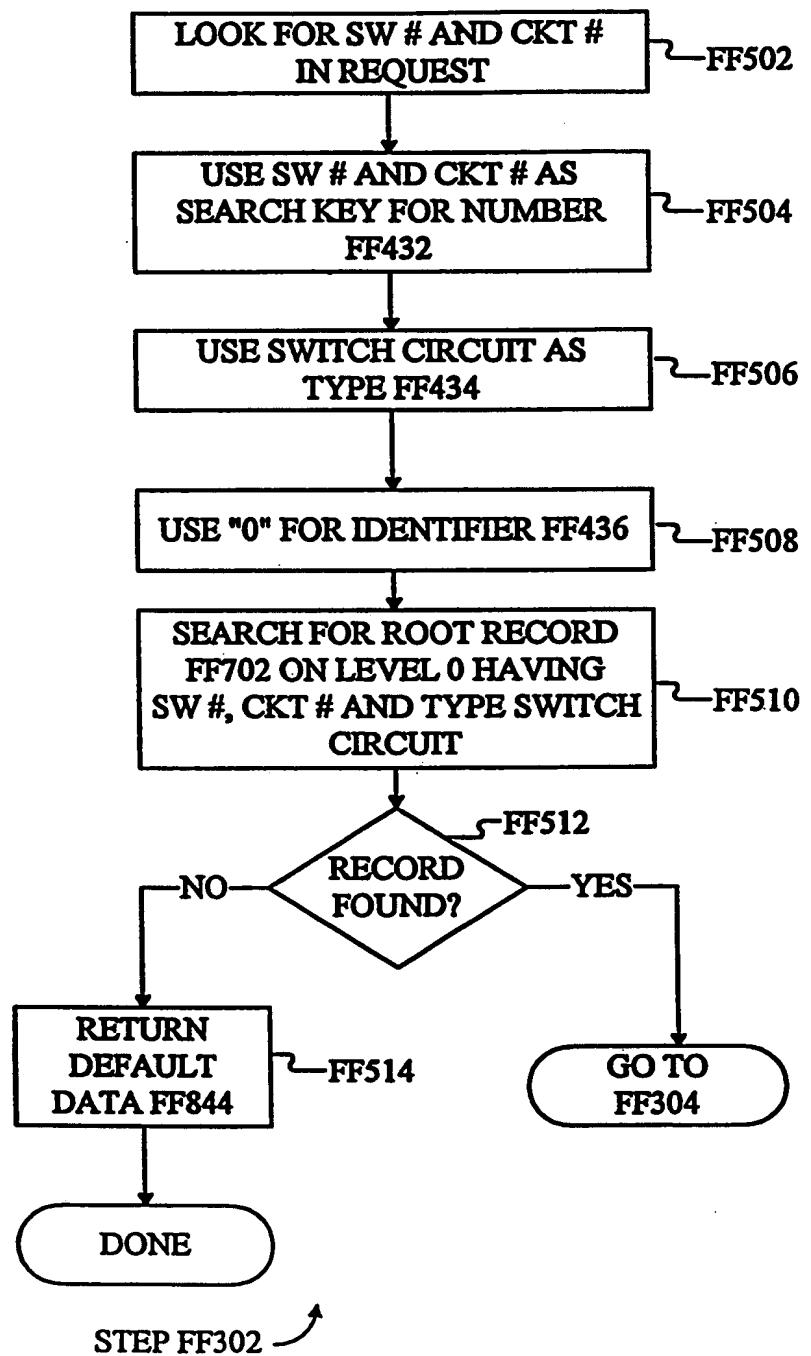


FIG 83

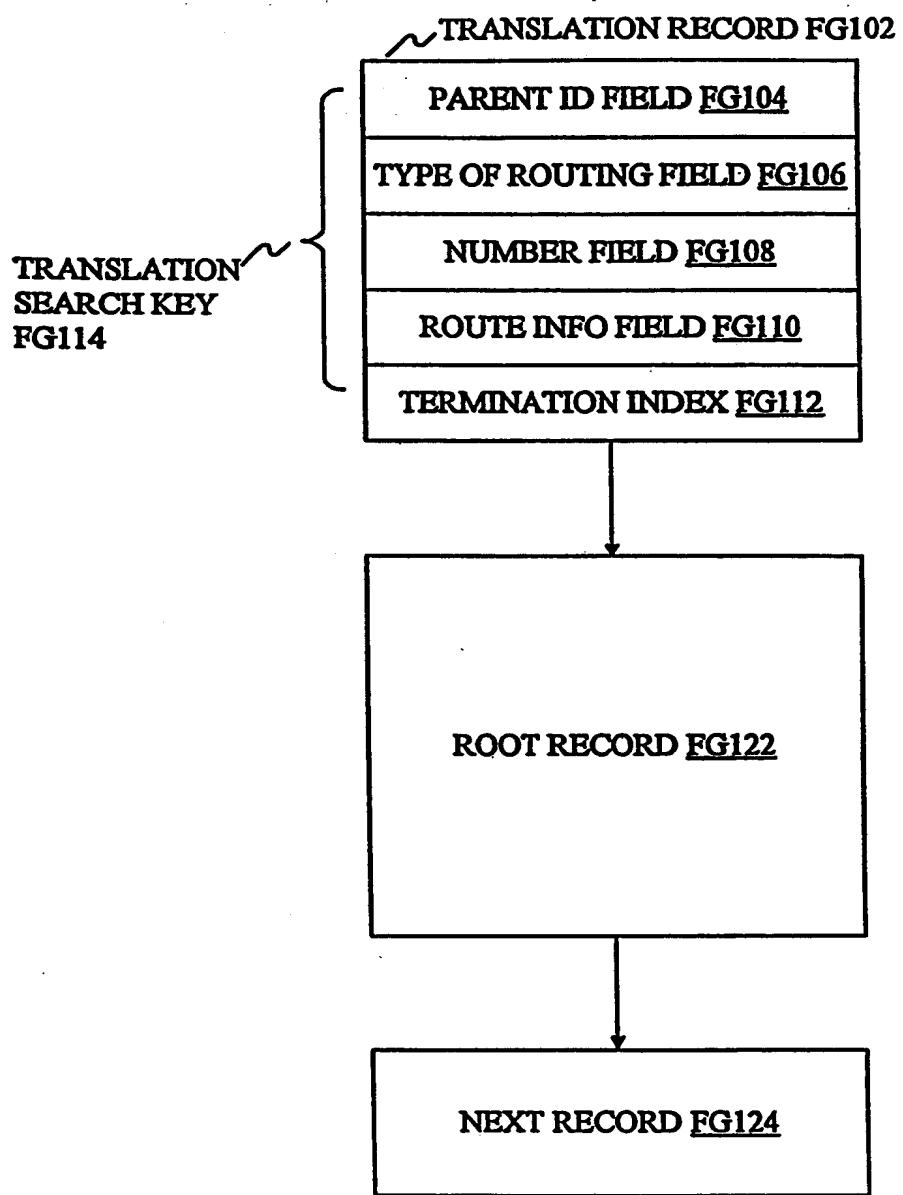


FIG 84

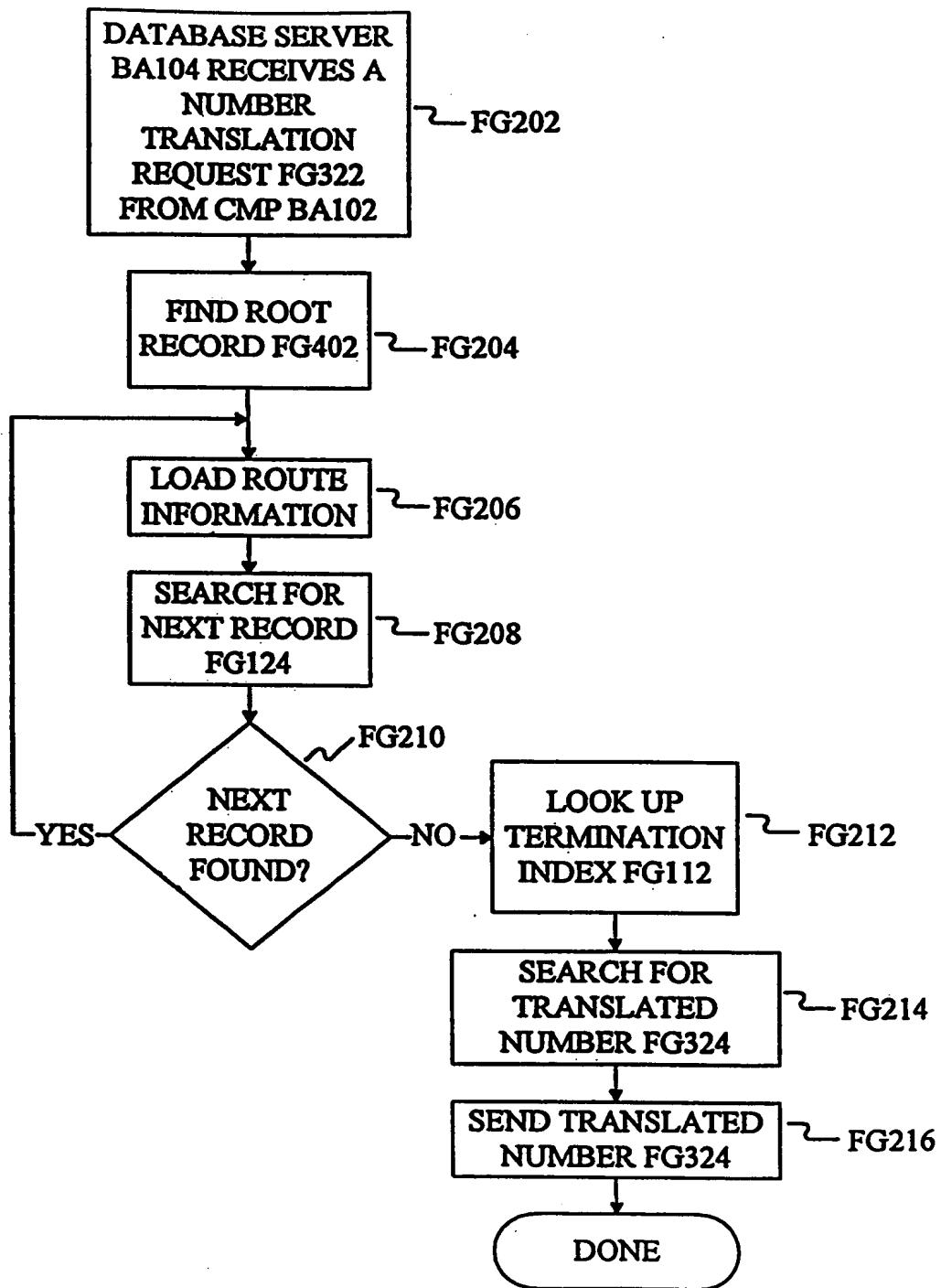


FIG 85

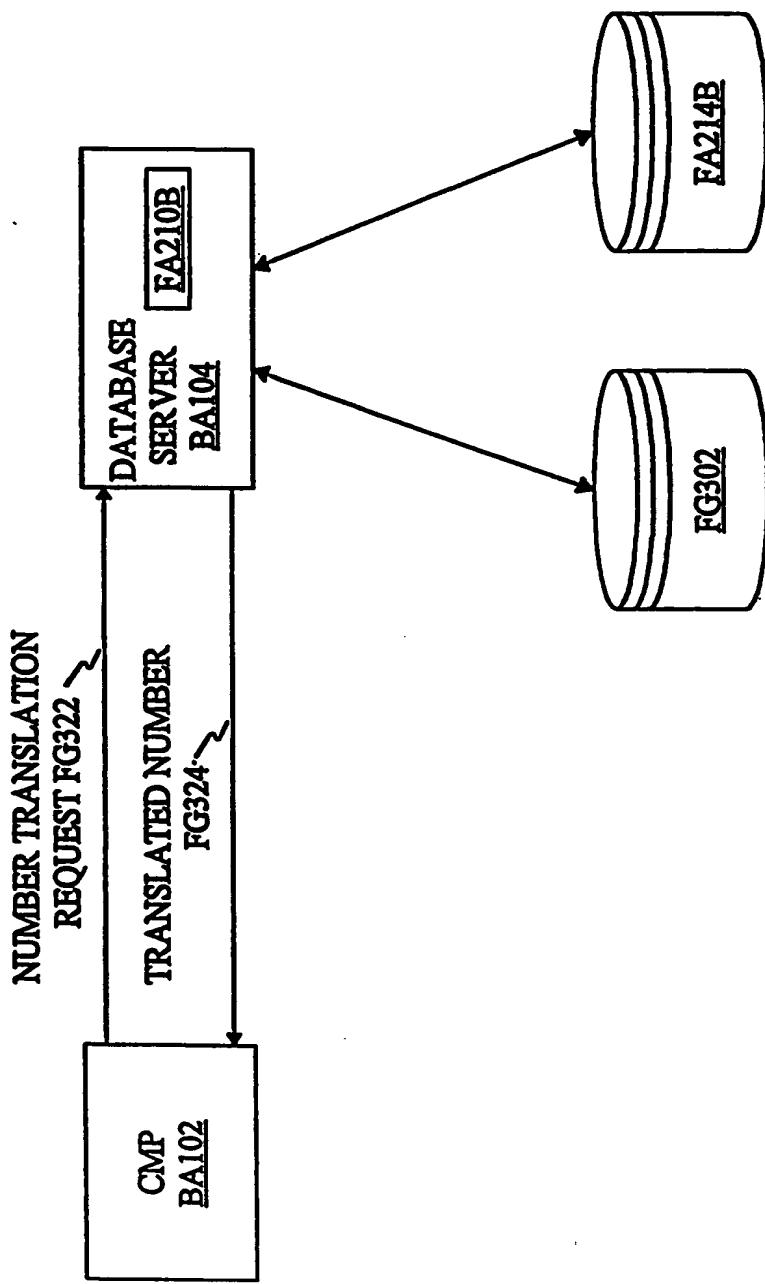


FIG 86

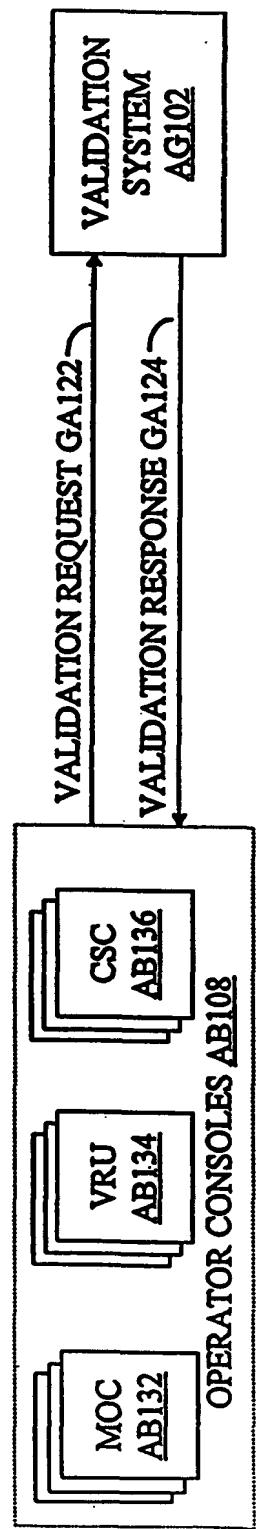


FIG 87

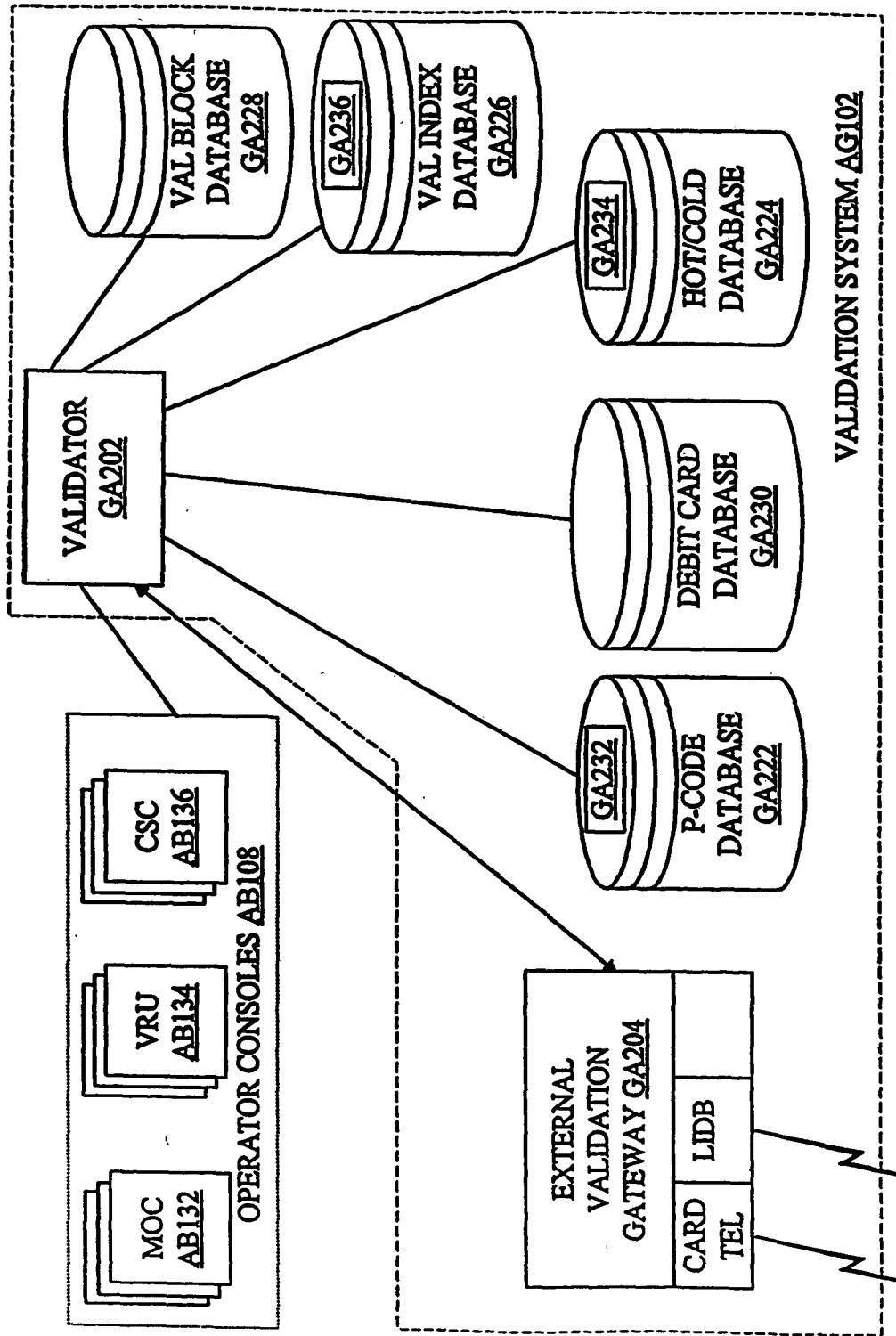


FIG 88

X.25 SS7

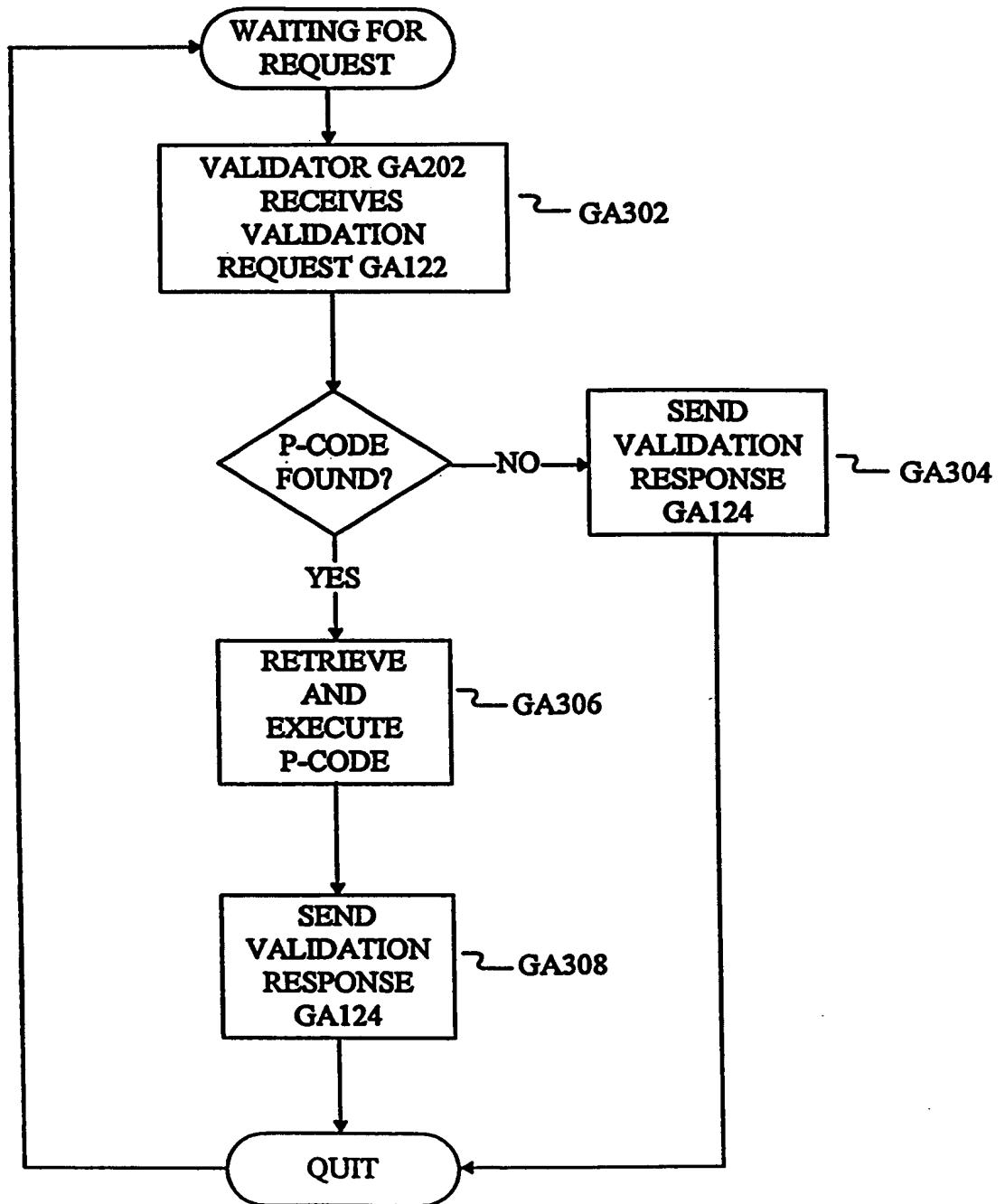


FIG 89

FIG 91

FIG 92

FIG 90

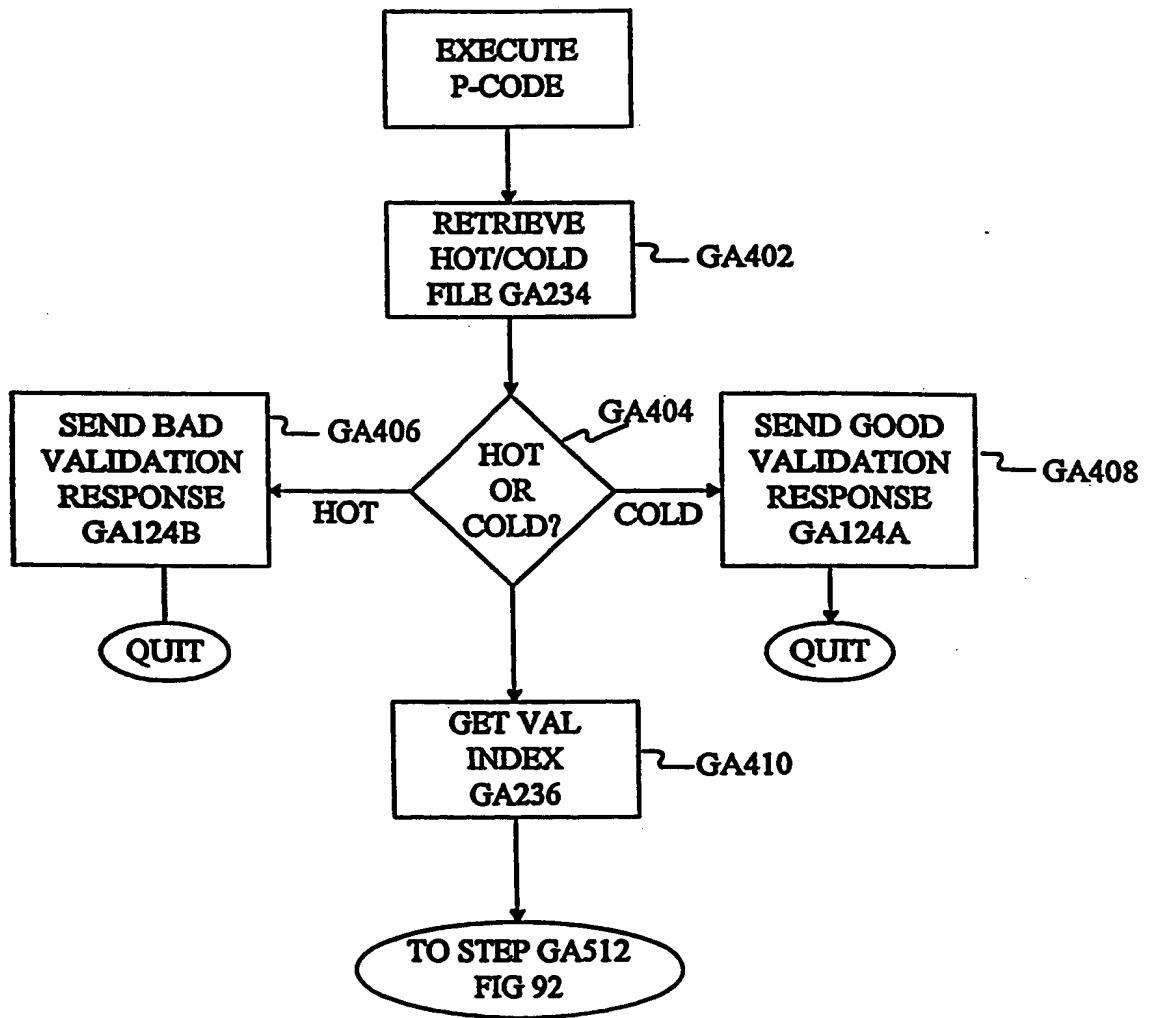


FIG 91

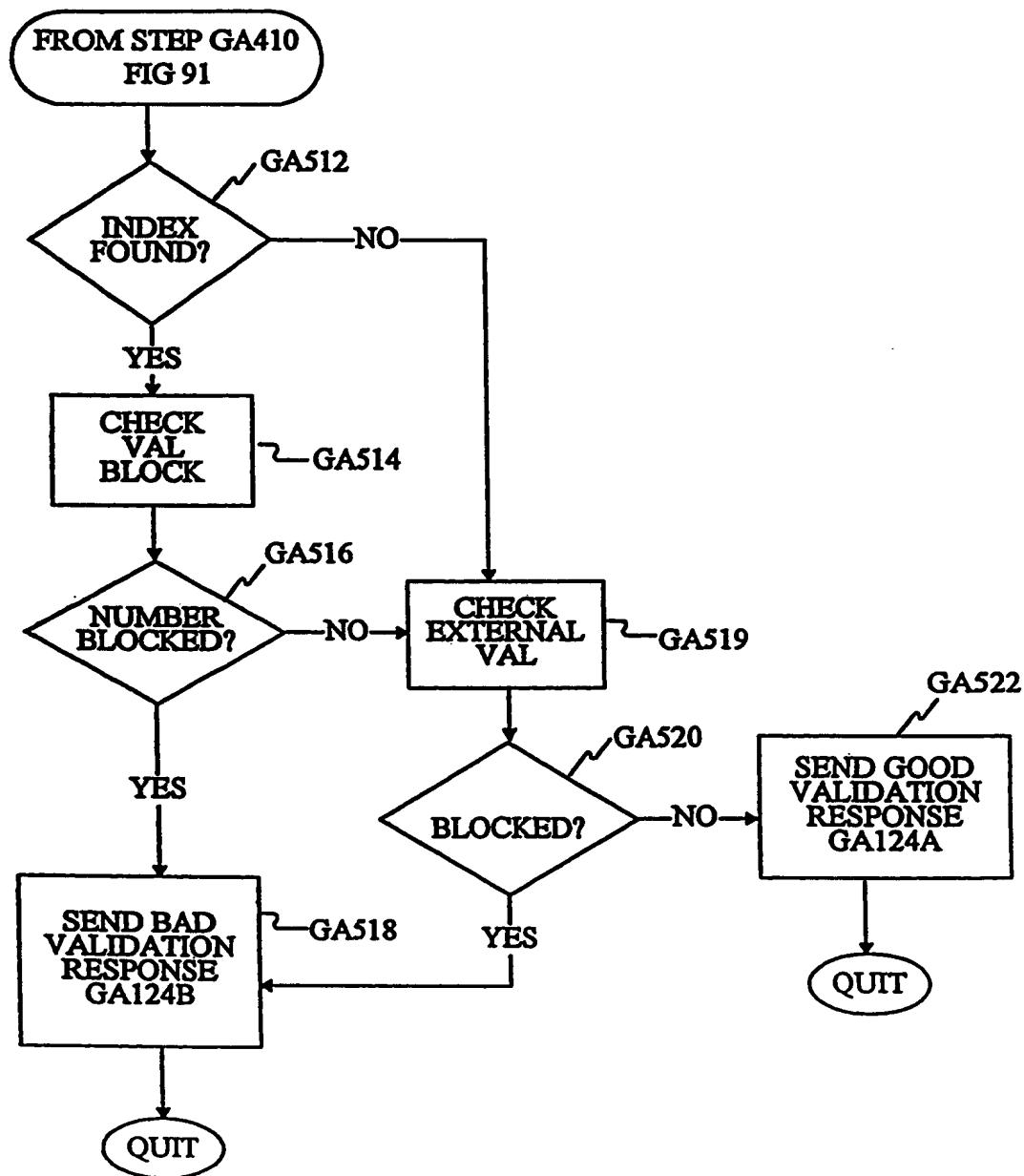


FIG 92

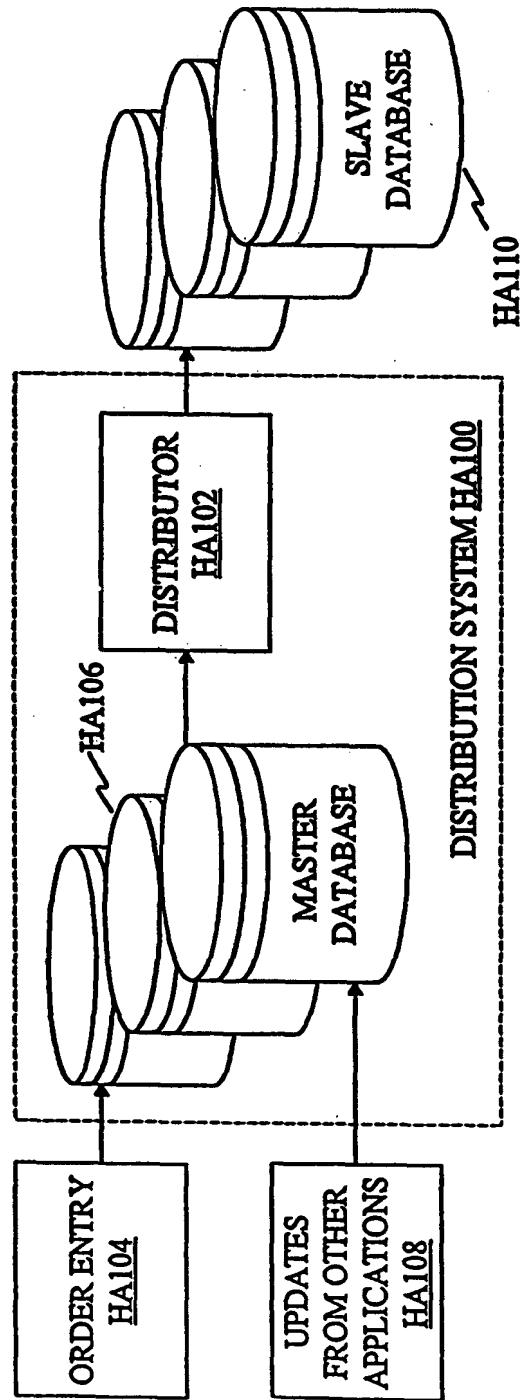


FIG 93

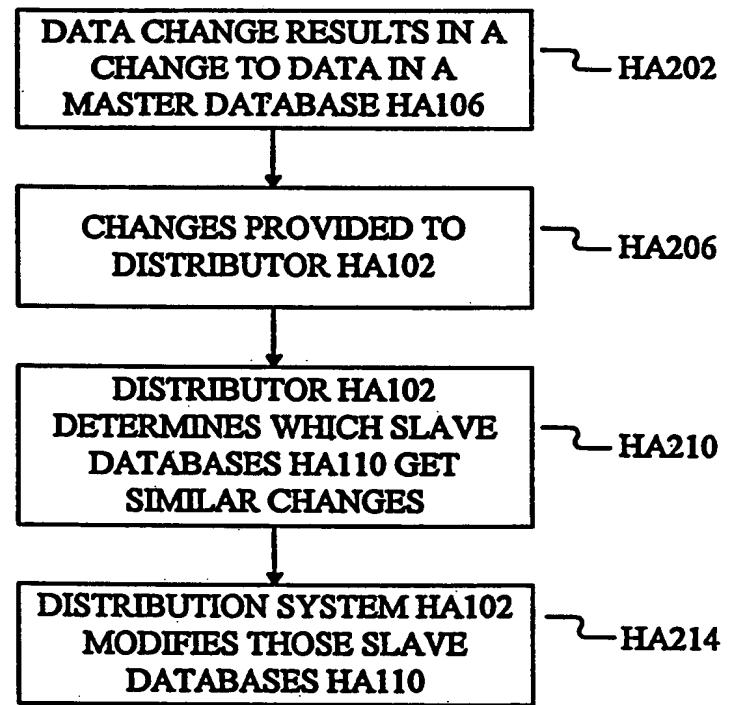


FIG 94

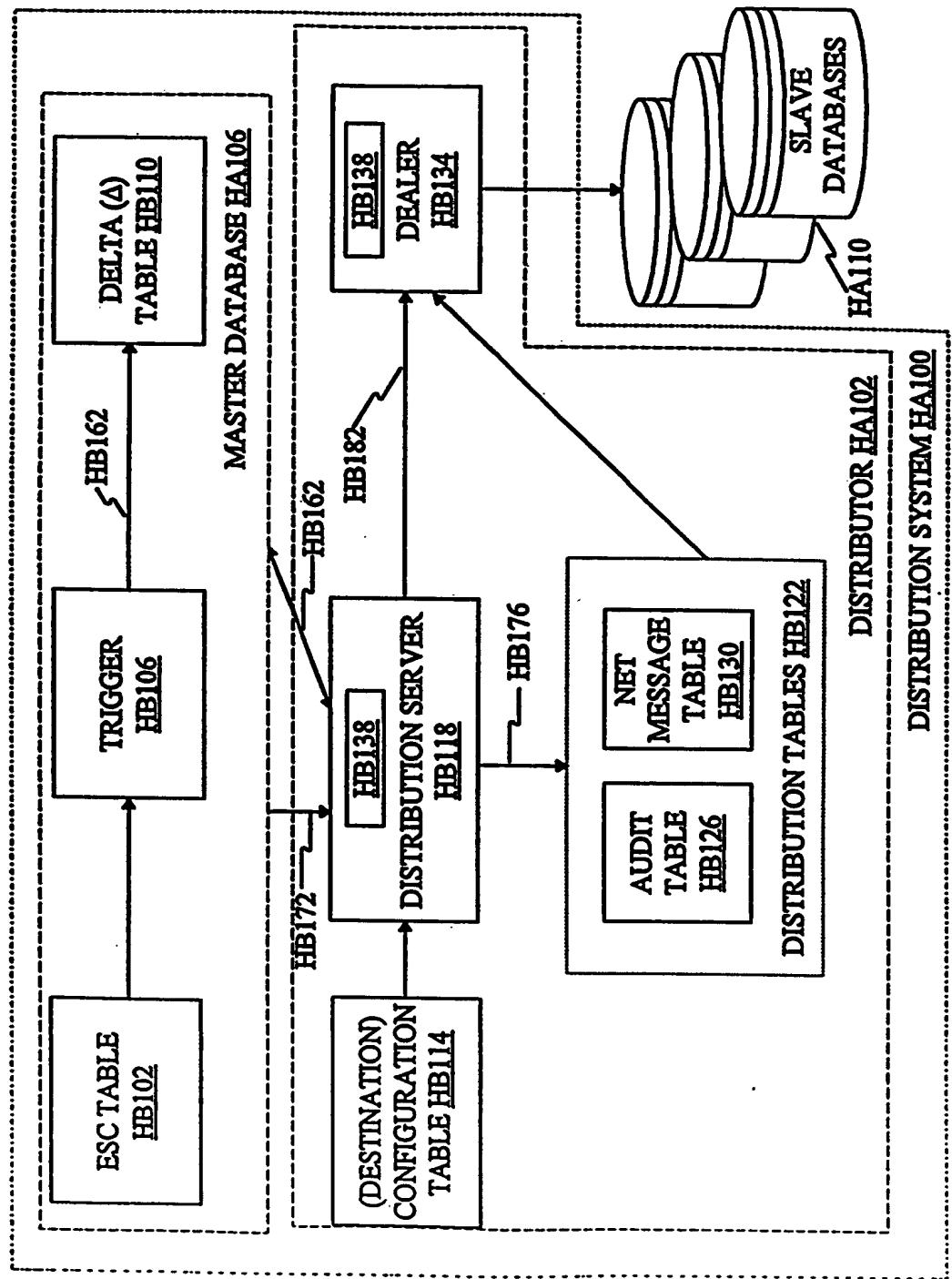


FIG 95

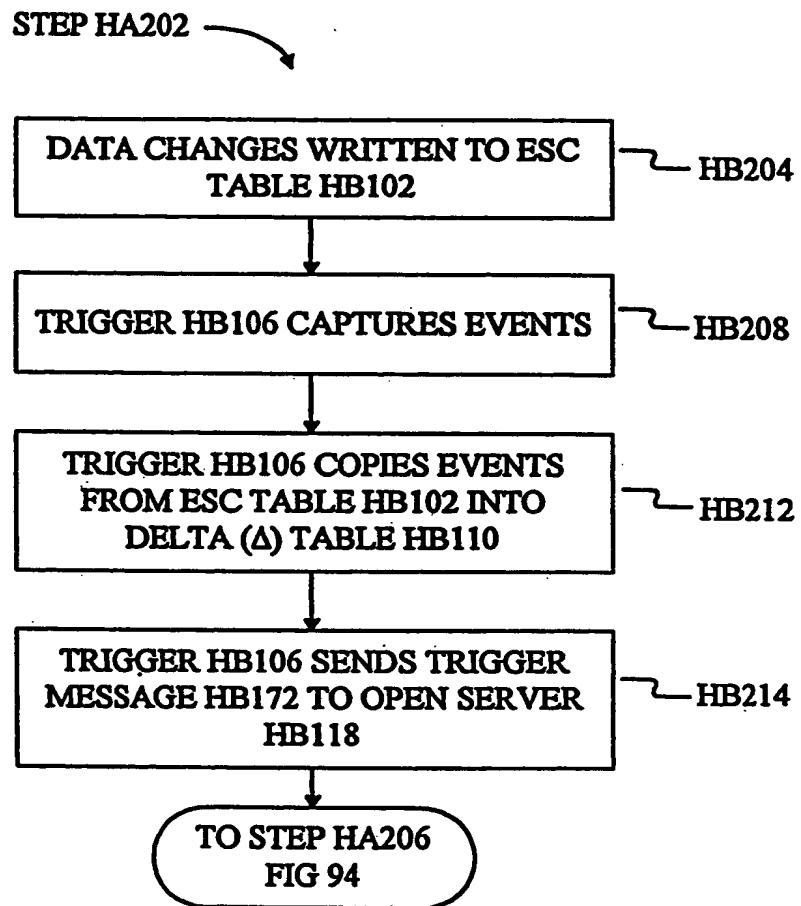


FIG 96

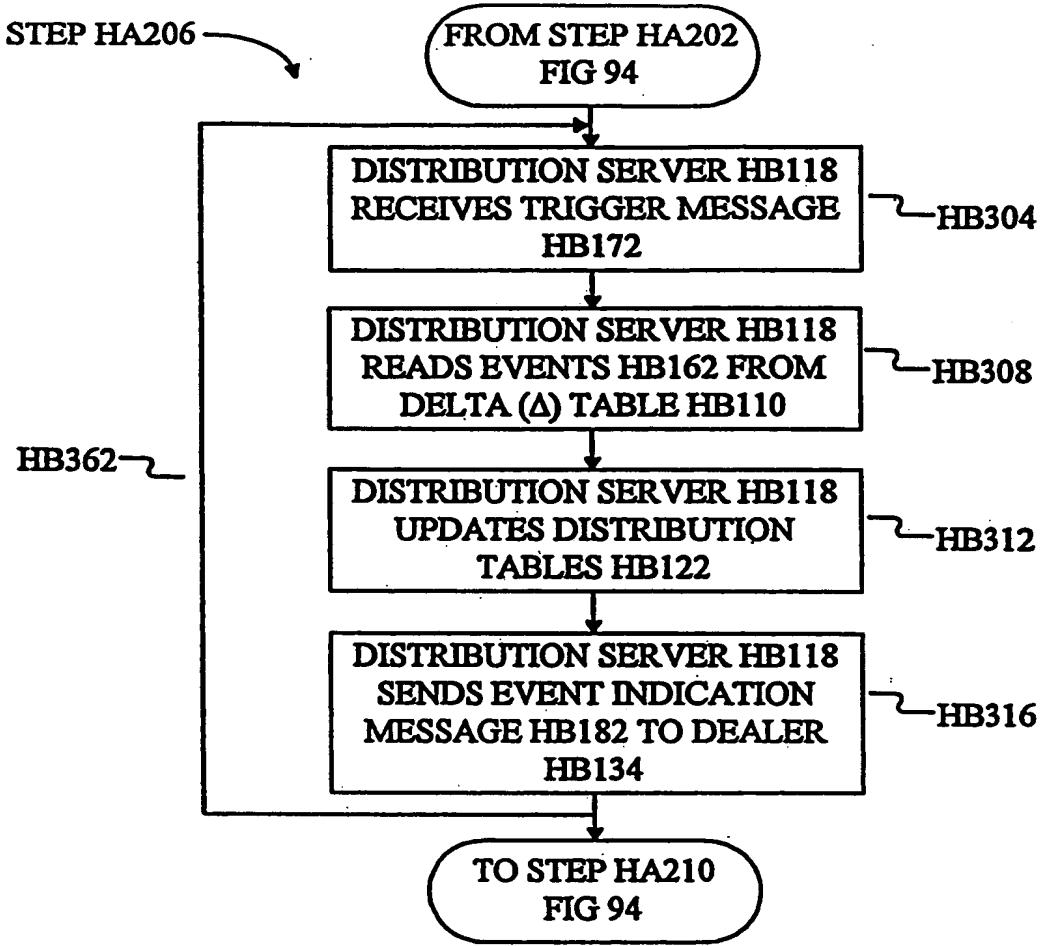


FIG 97

AUDIT TABLE HB126

| SERVICE # <u>HC104</u> | SERVER NAME <u>HC108</u> | POINTER <u>HC112</u> | ACTION <u>HC116</u> | UPDATE FLAG <u>HC120</u> |
|---------------------------|--------------------------------|-------------------------|------------------------|--------------------------------|
| SERVICE # <u>HC104</u> | SERVER NAME <u>HC108</u> | POINTER <u>HC112</u> | ACTION <u>HC116</u> | UPDATE FLAG <u>HC120</u> |
| SERVICE # <u>HC104</u> | SERVER NAME <u>HC108</u> | POINTER <u>HC112</u> | ACTION <u>HC116</u> | UPDATE FLAG <u>HC120</u> |
| | | | | |

FIG 98

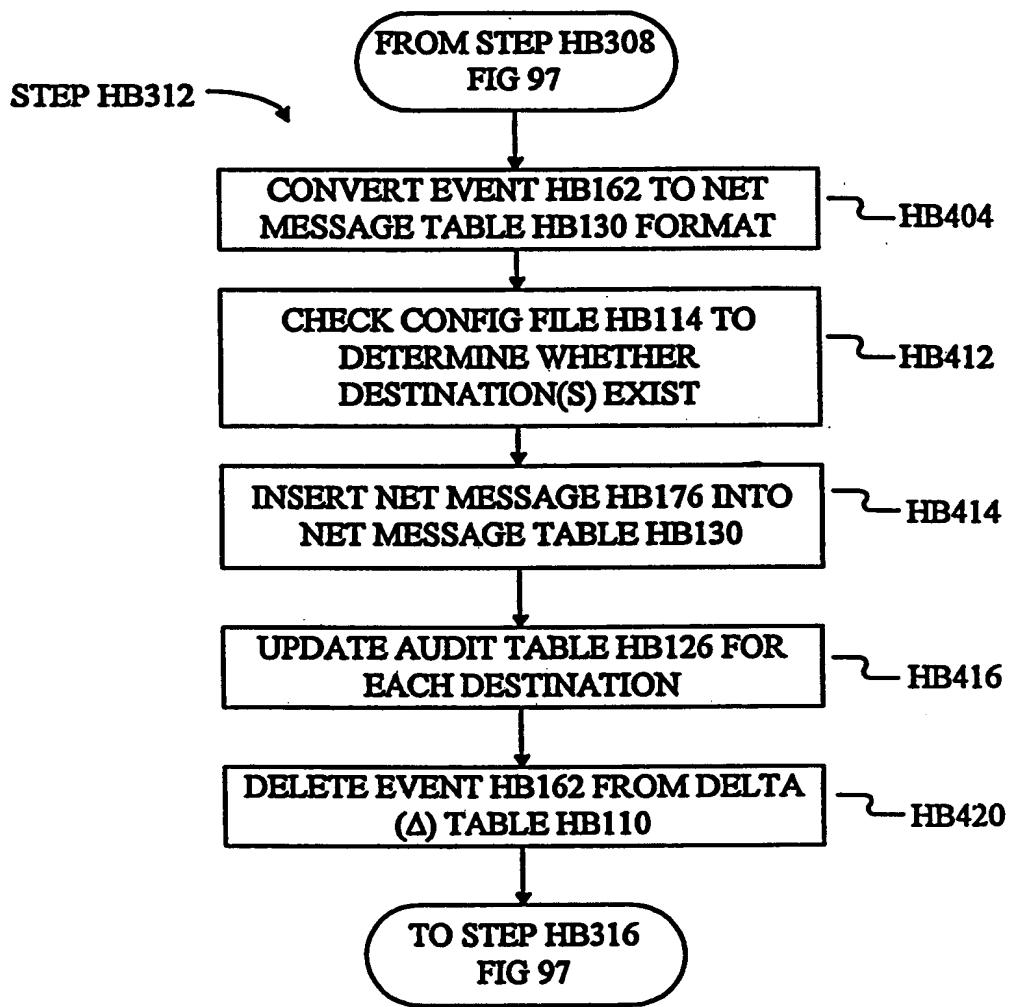


FIG 99

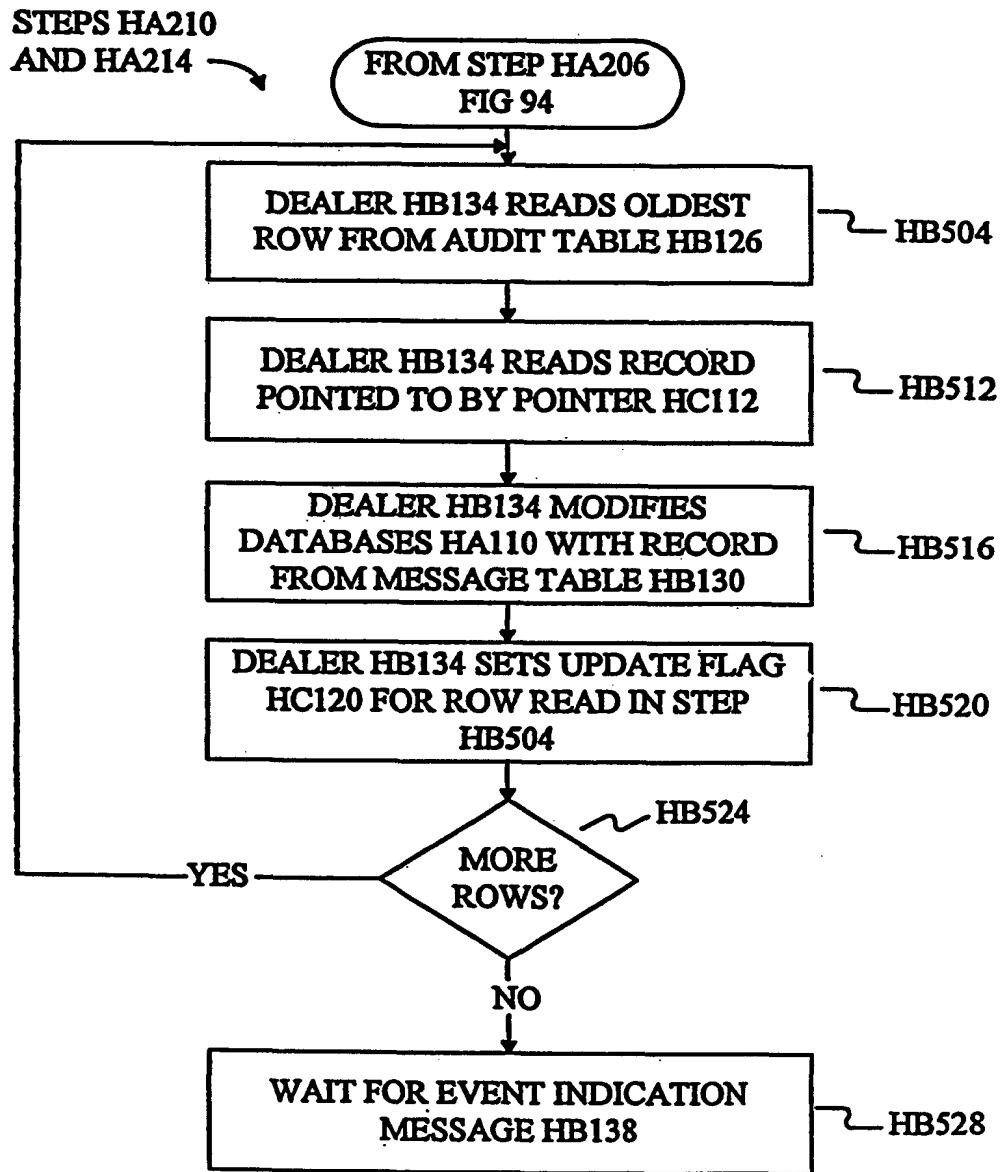


FIG 100

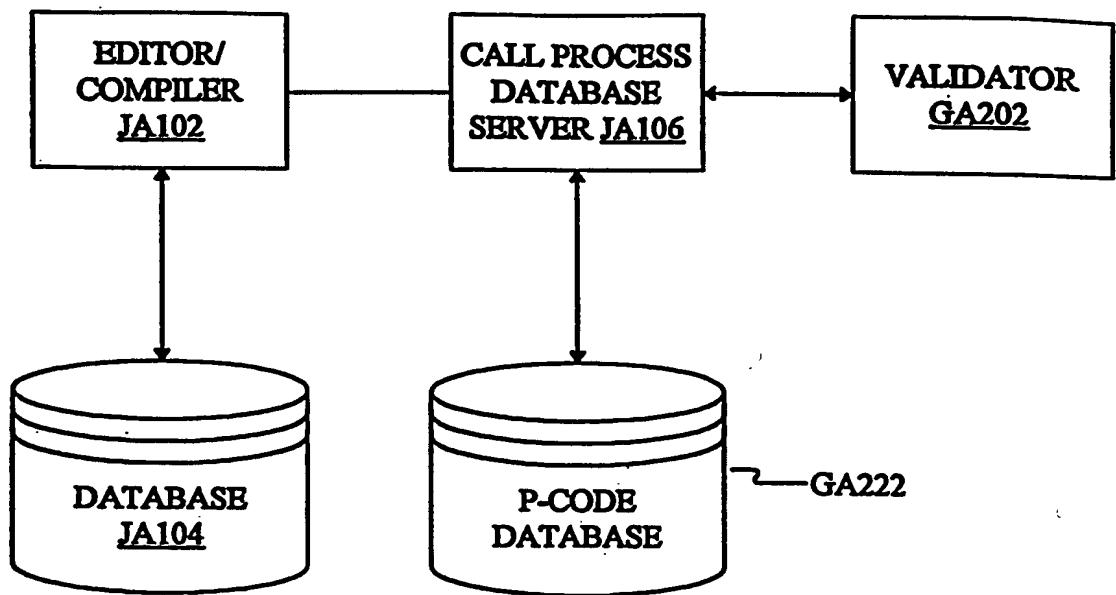


FIG 101

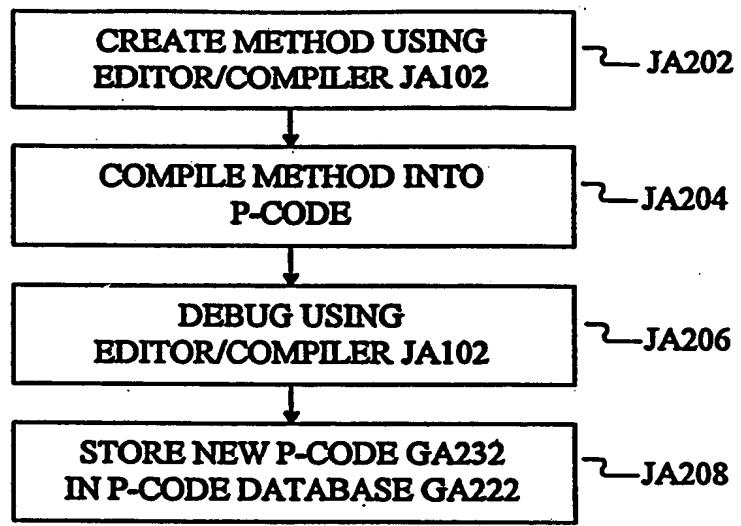


FIG 102

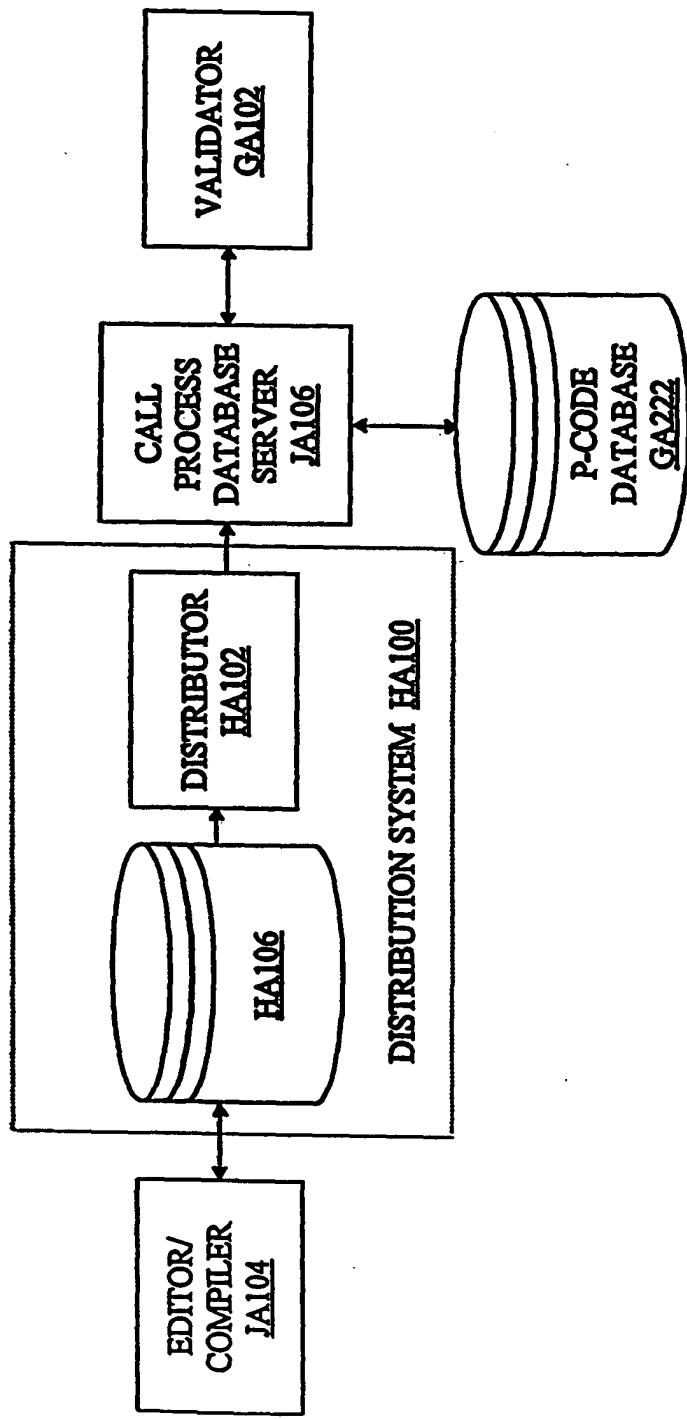


FIG 103

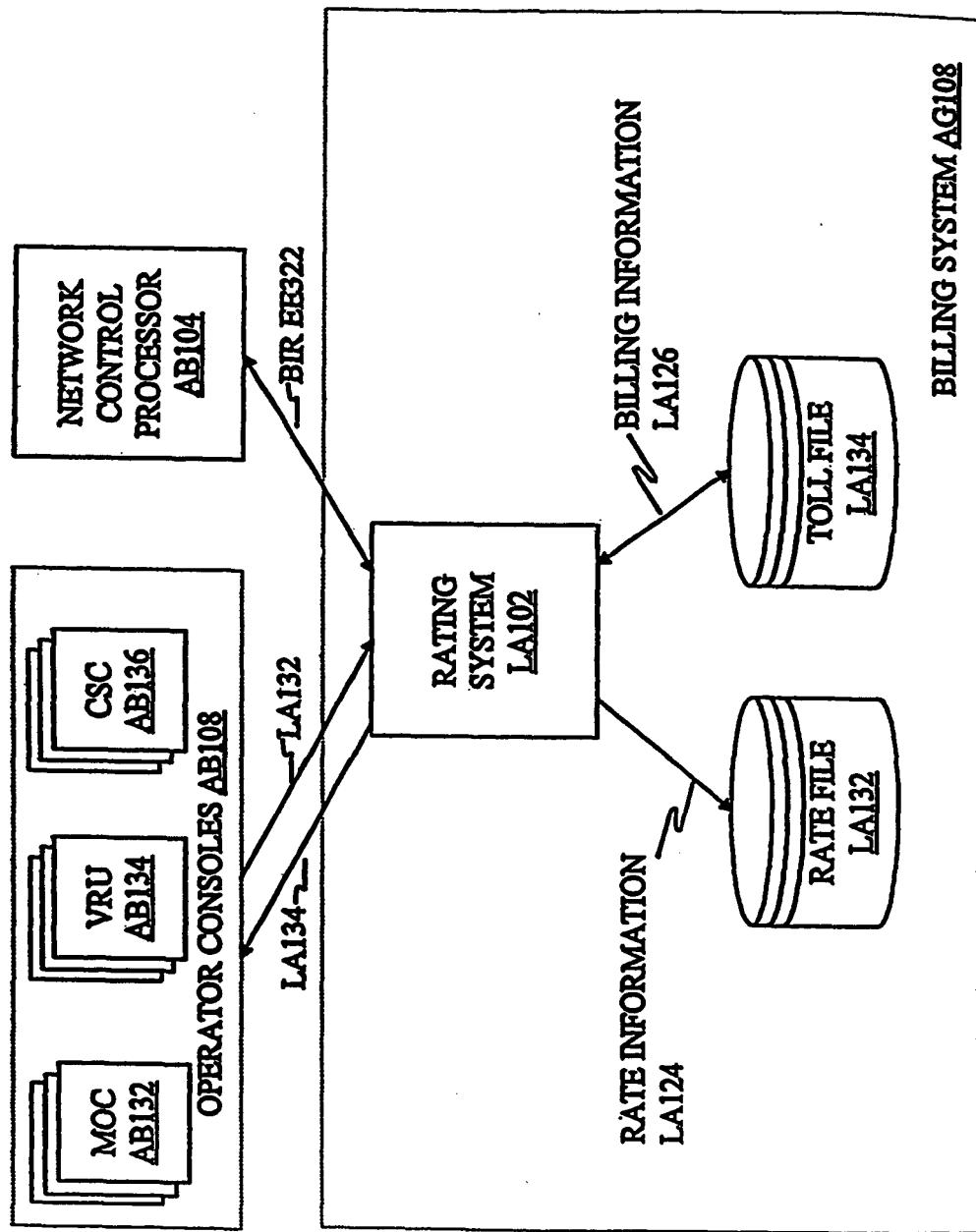


FIG 104

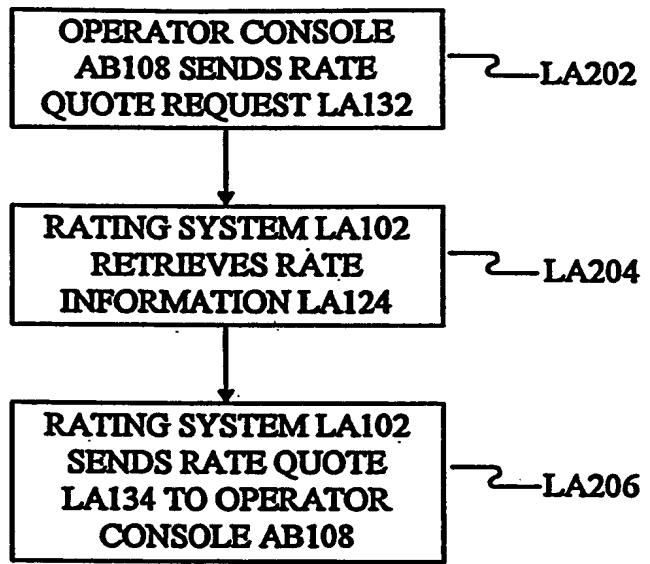


FIG 105

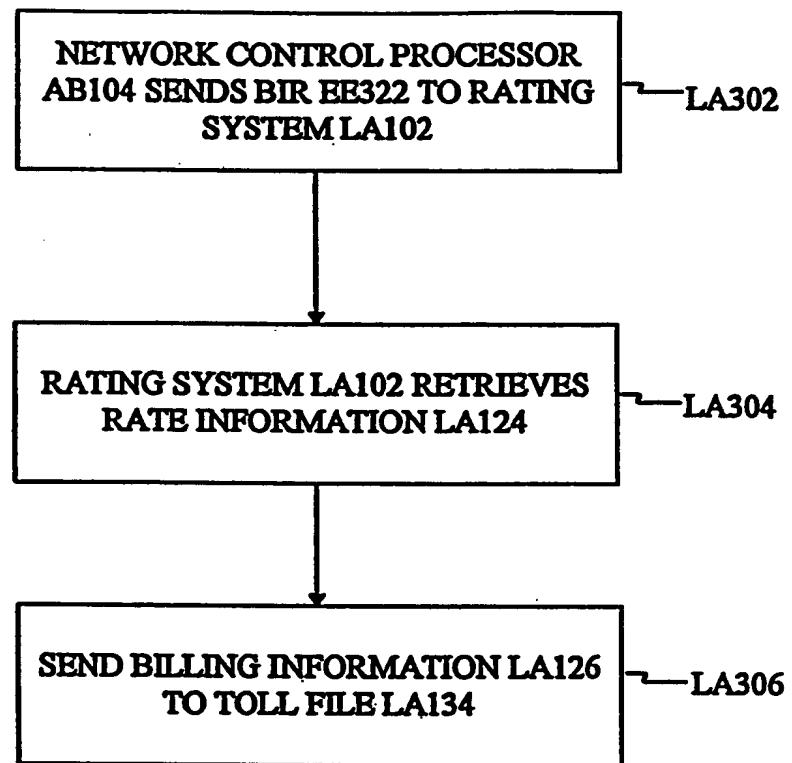


FIG 106

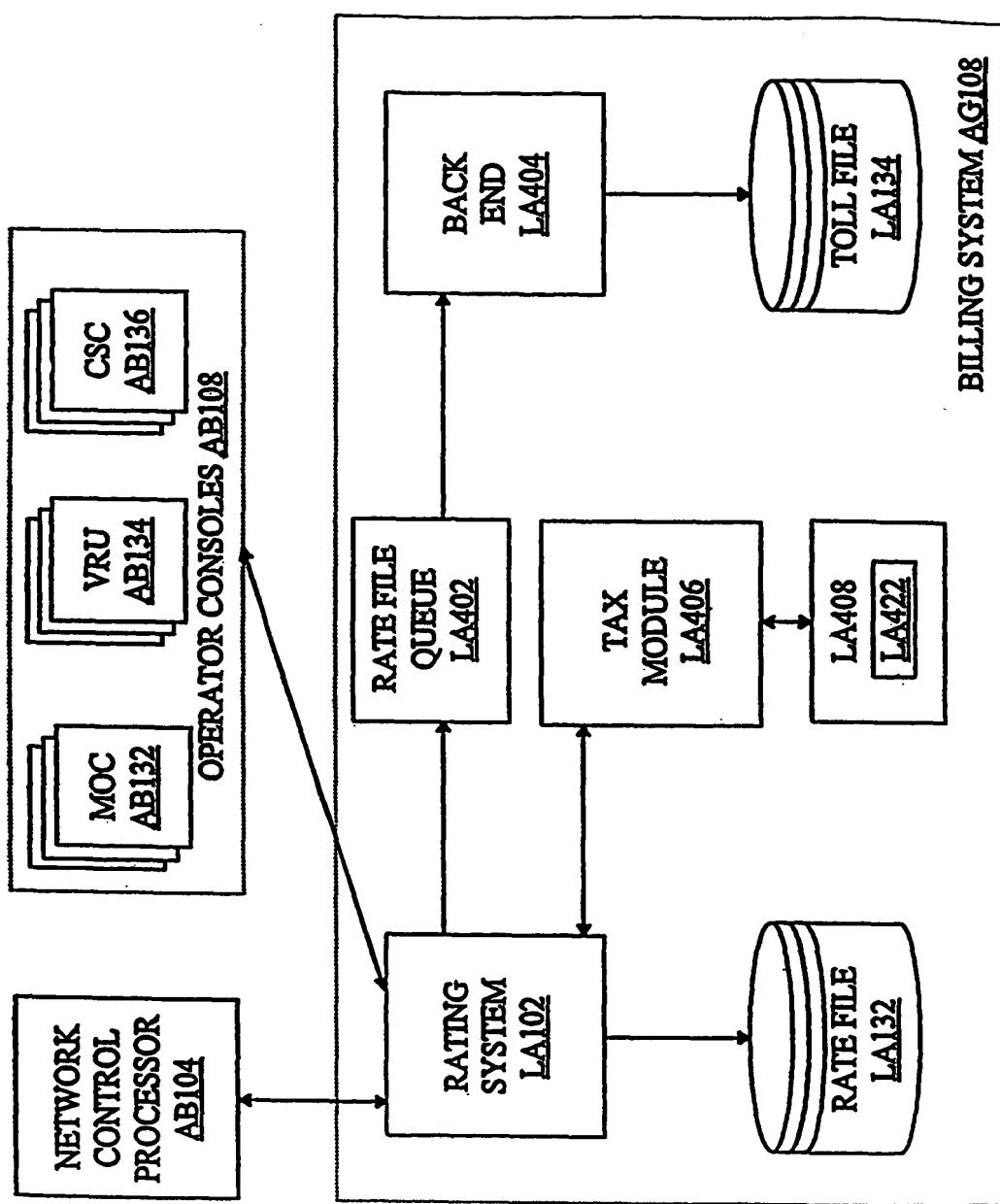


FIG 107

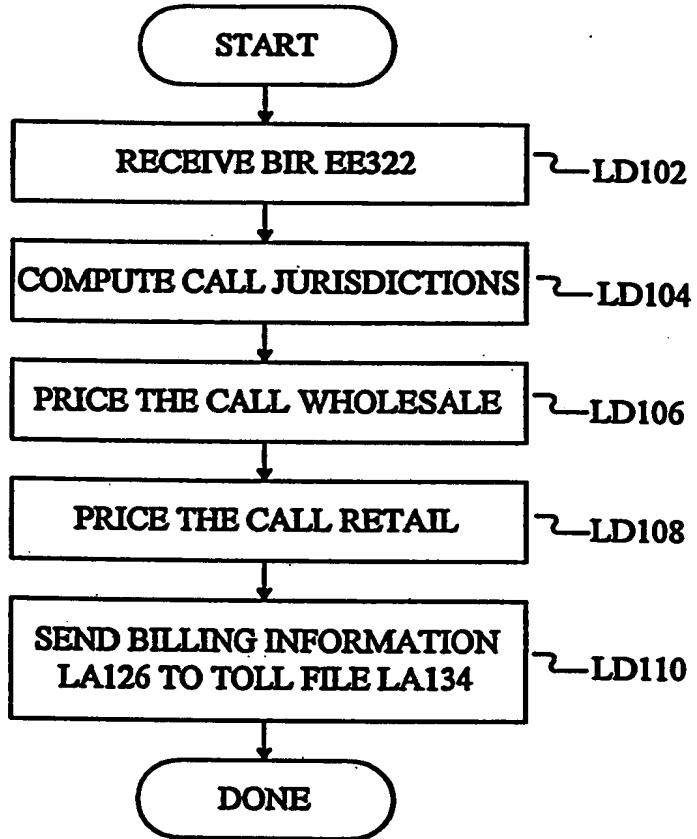


FIG 108

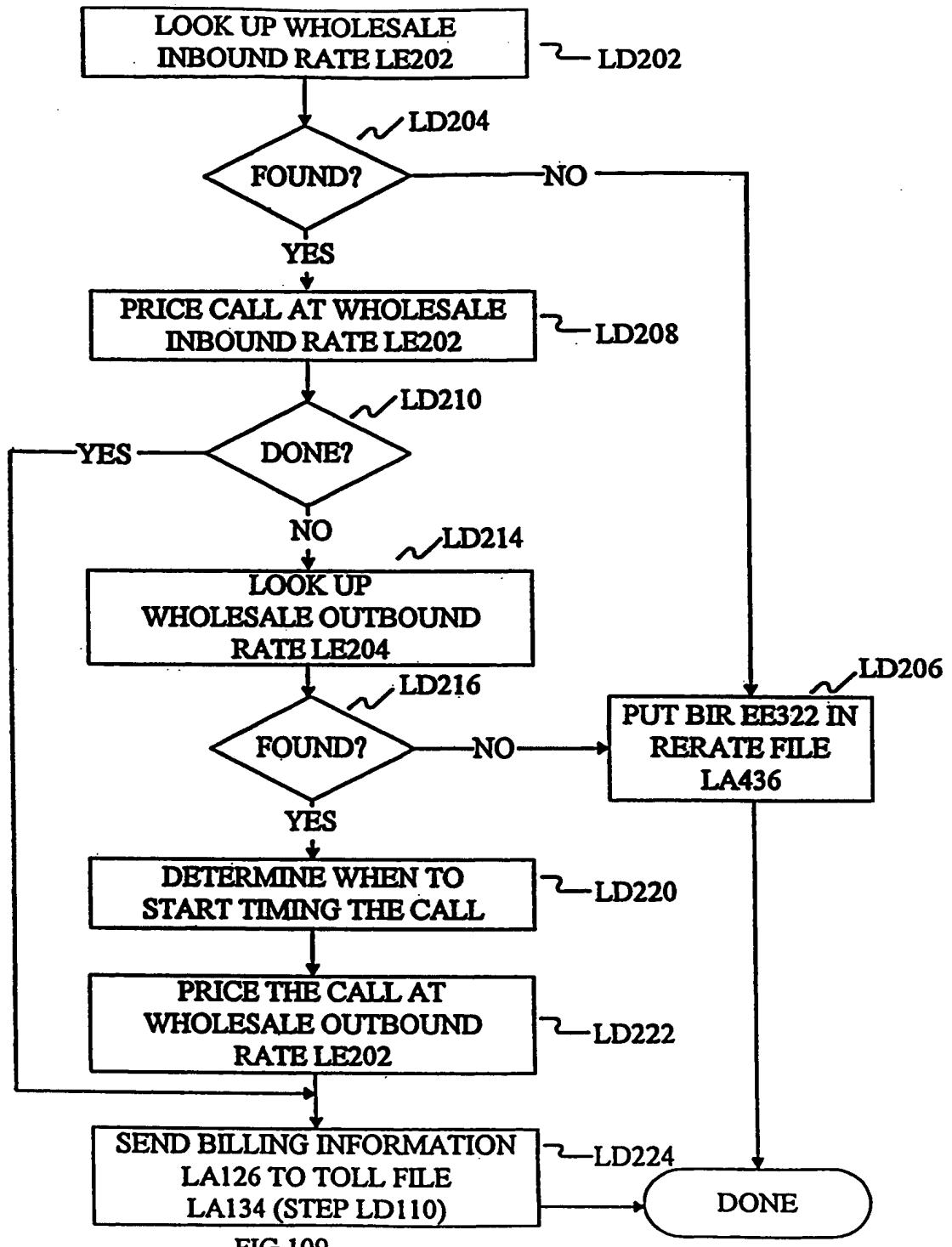


FIG 109

| |
|----------------------------------|
| WHOLESALE INBOUND RATE LE202 |
| WHOLESALE OUTBOUND RATE LE204 |
| RETAIL RATE LE206 |
| TAX RATE LE208 |

RATE FILE LA132 →

FIG 110

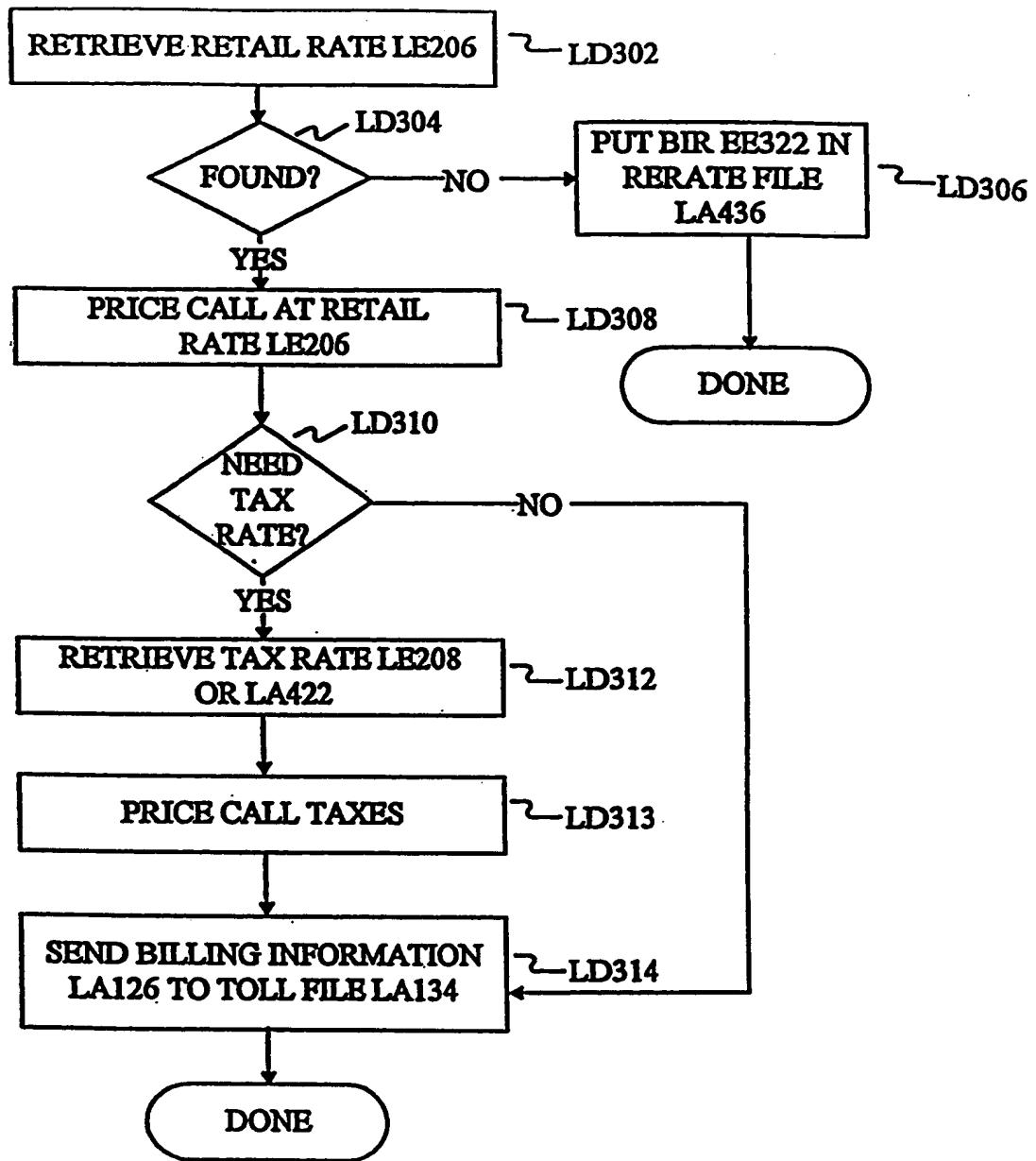


FIG 111

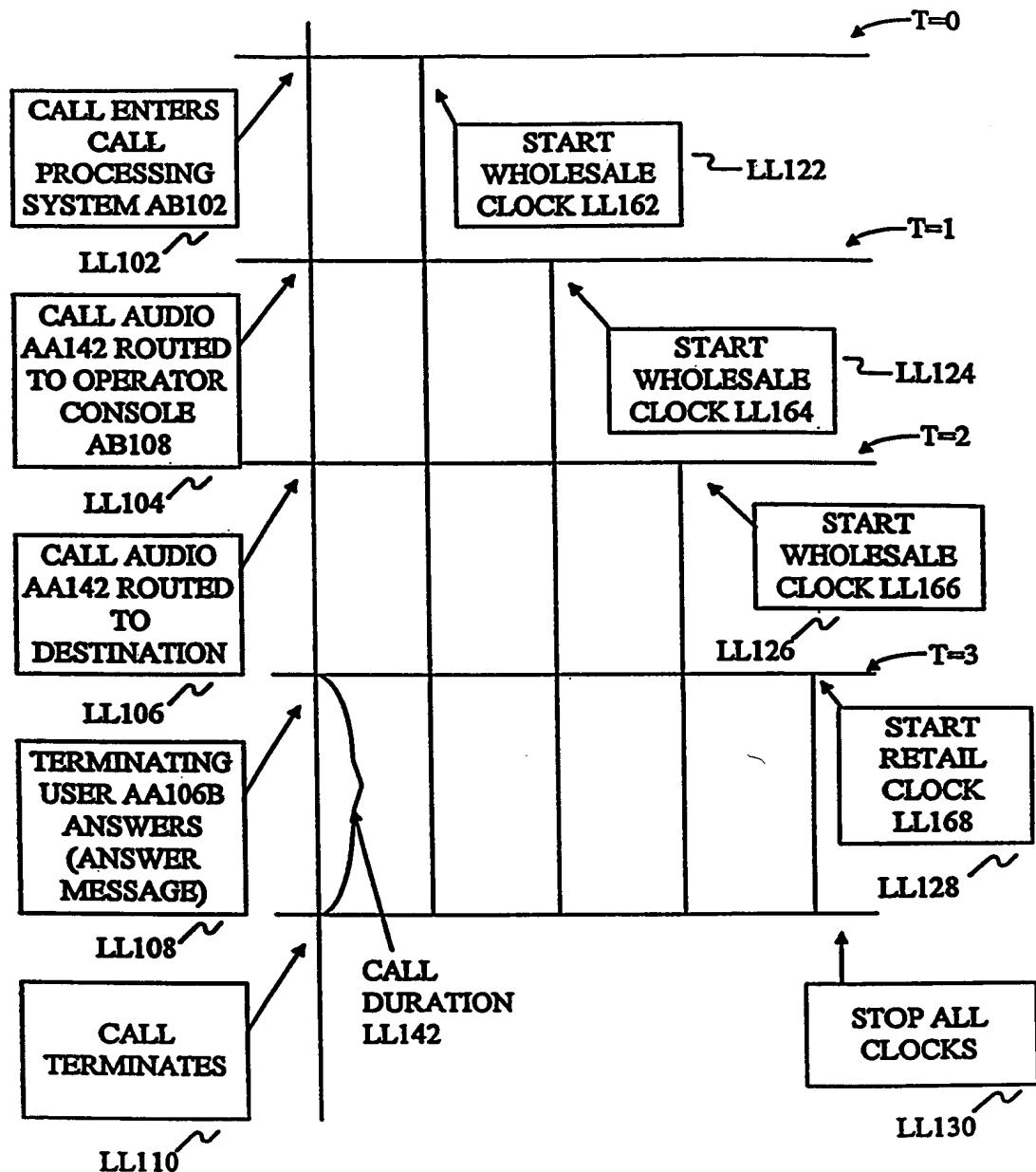


FIG 112

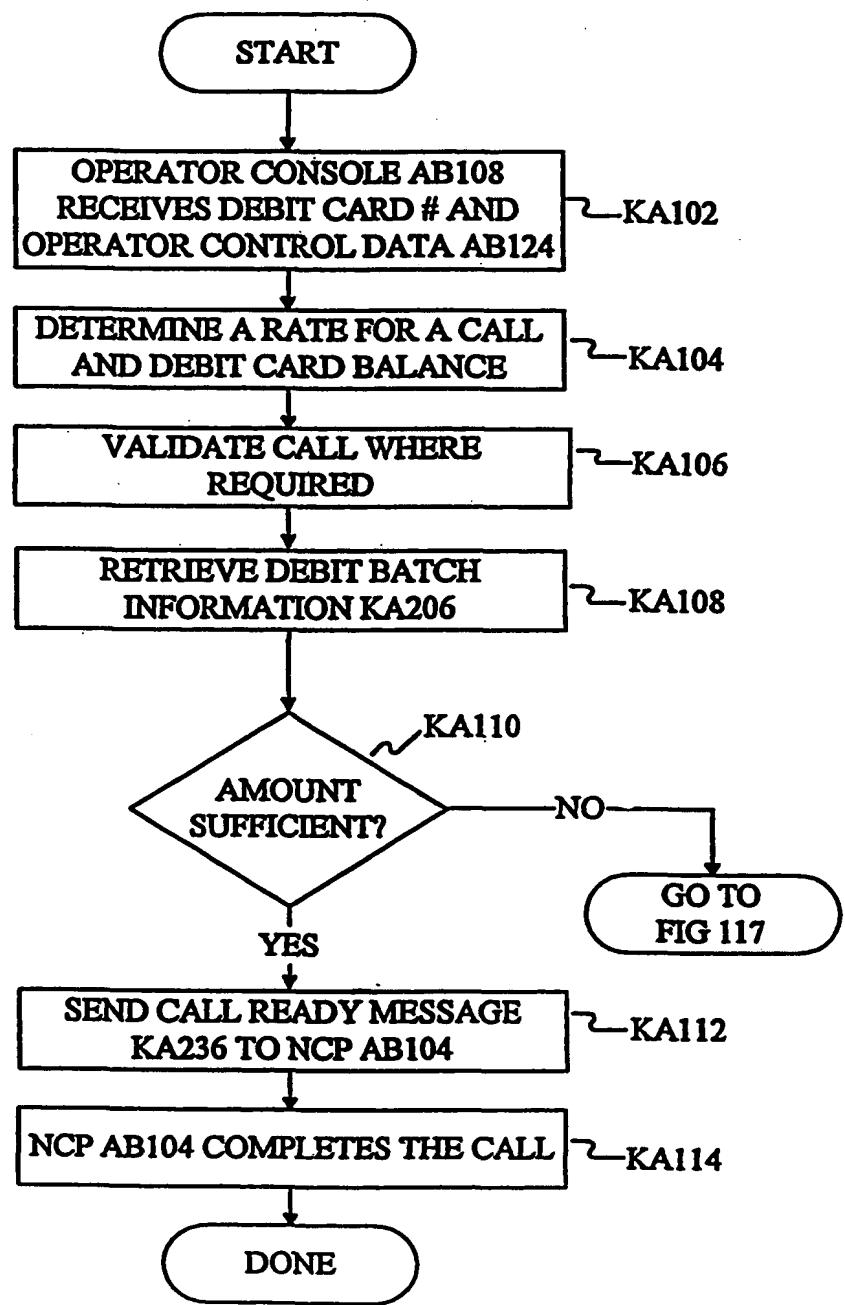


FIG 113

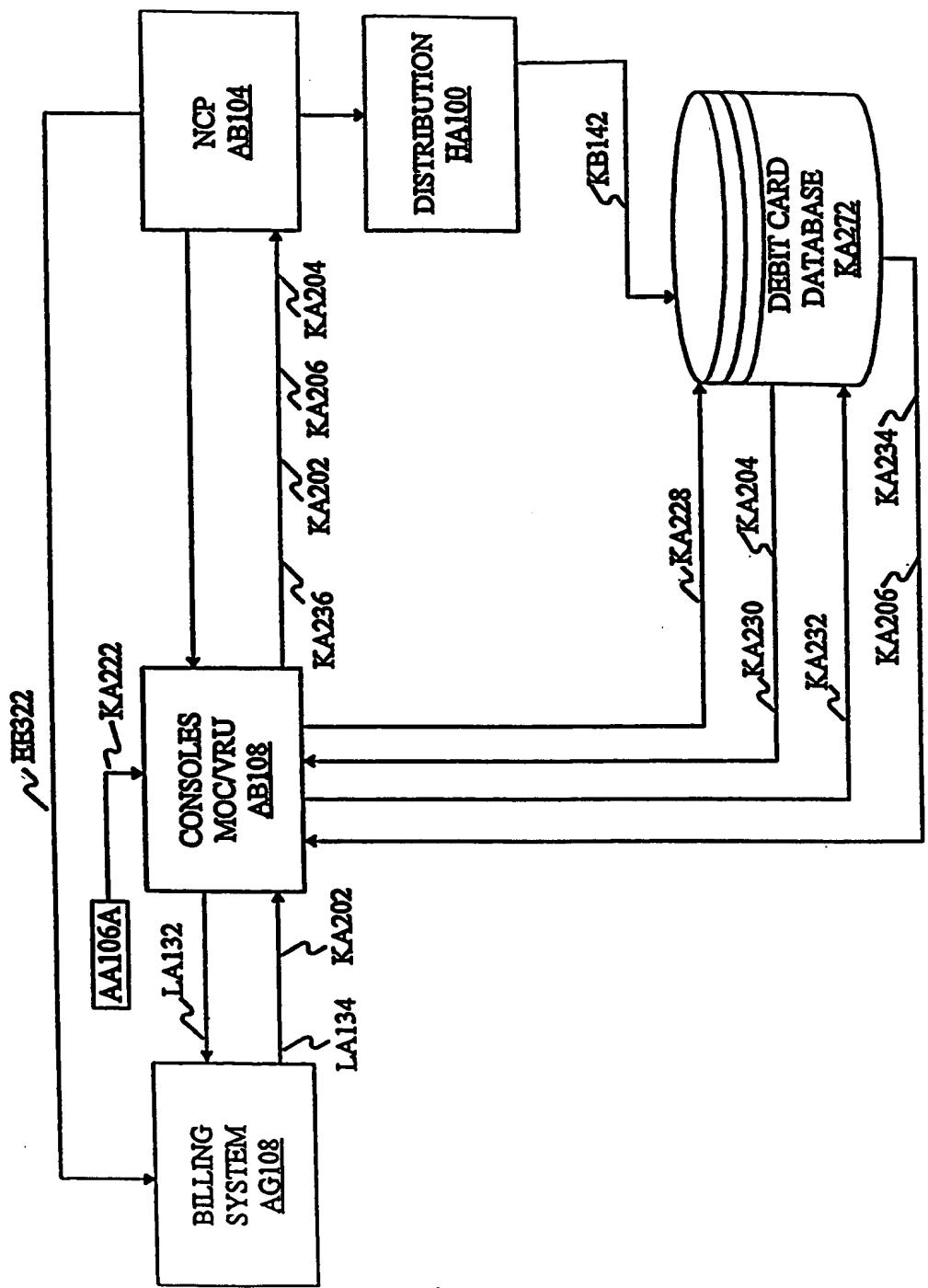


FIG 114

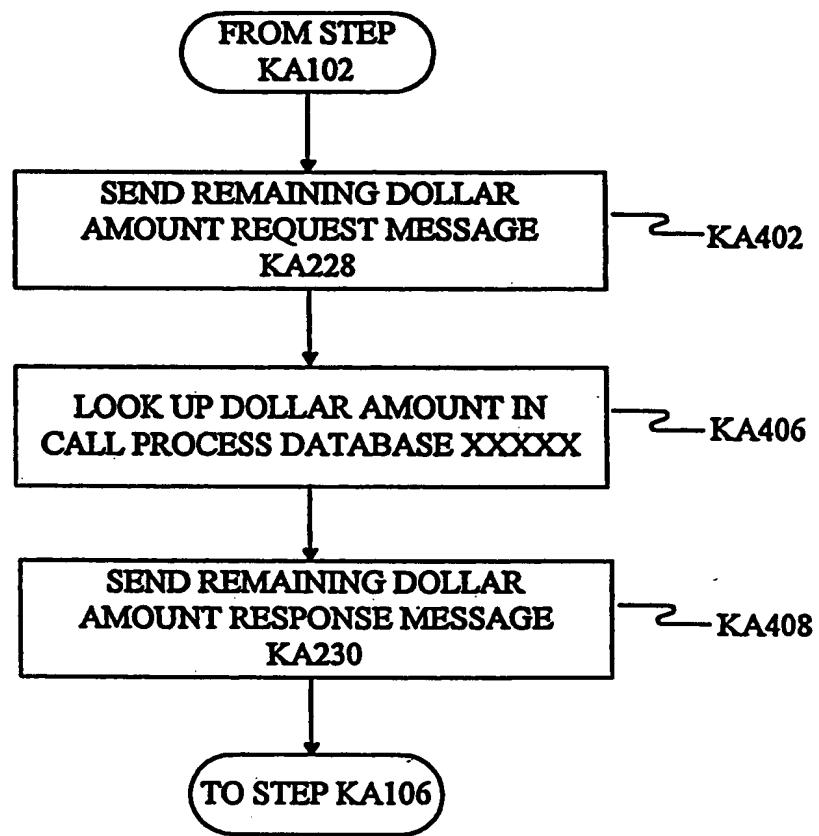


FIG 115

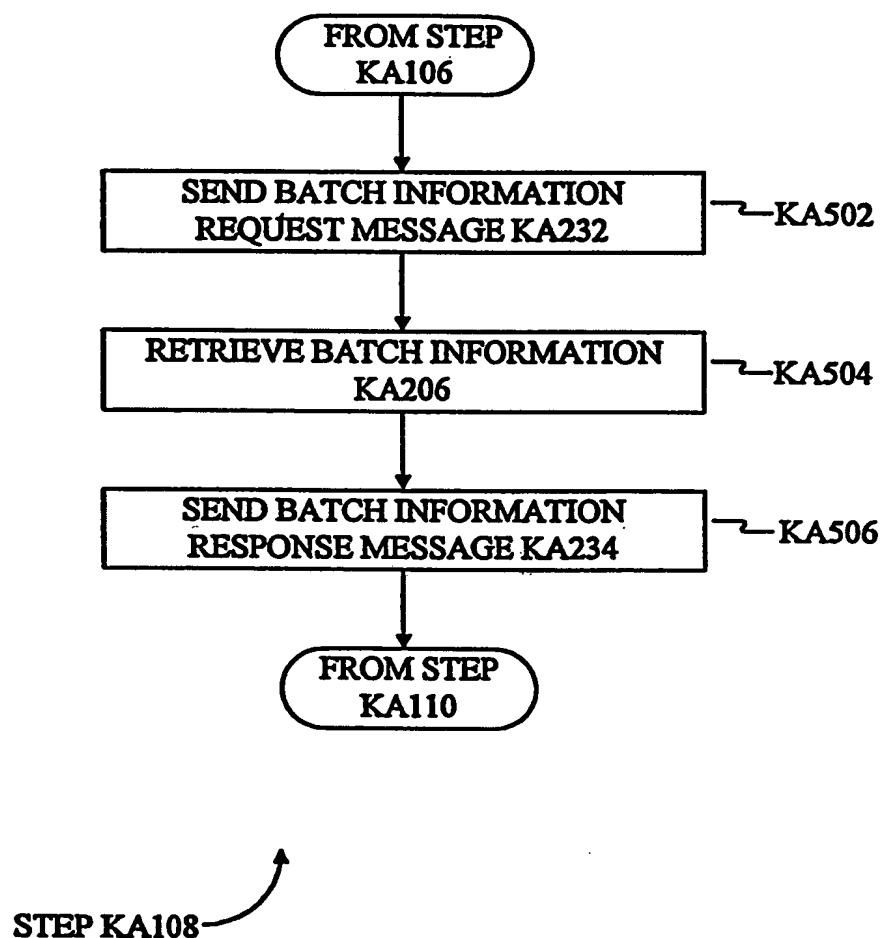


FIG 116

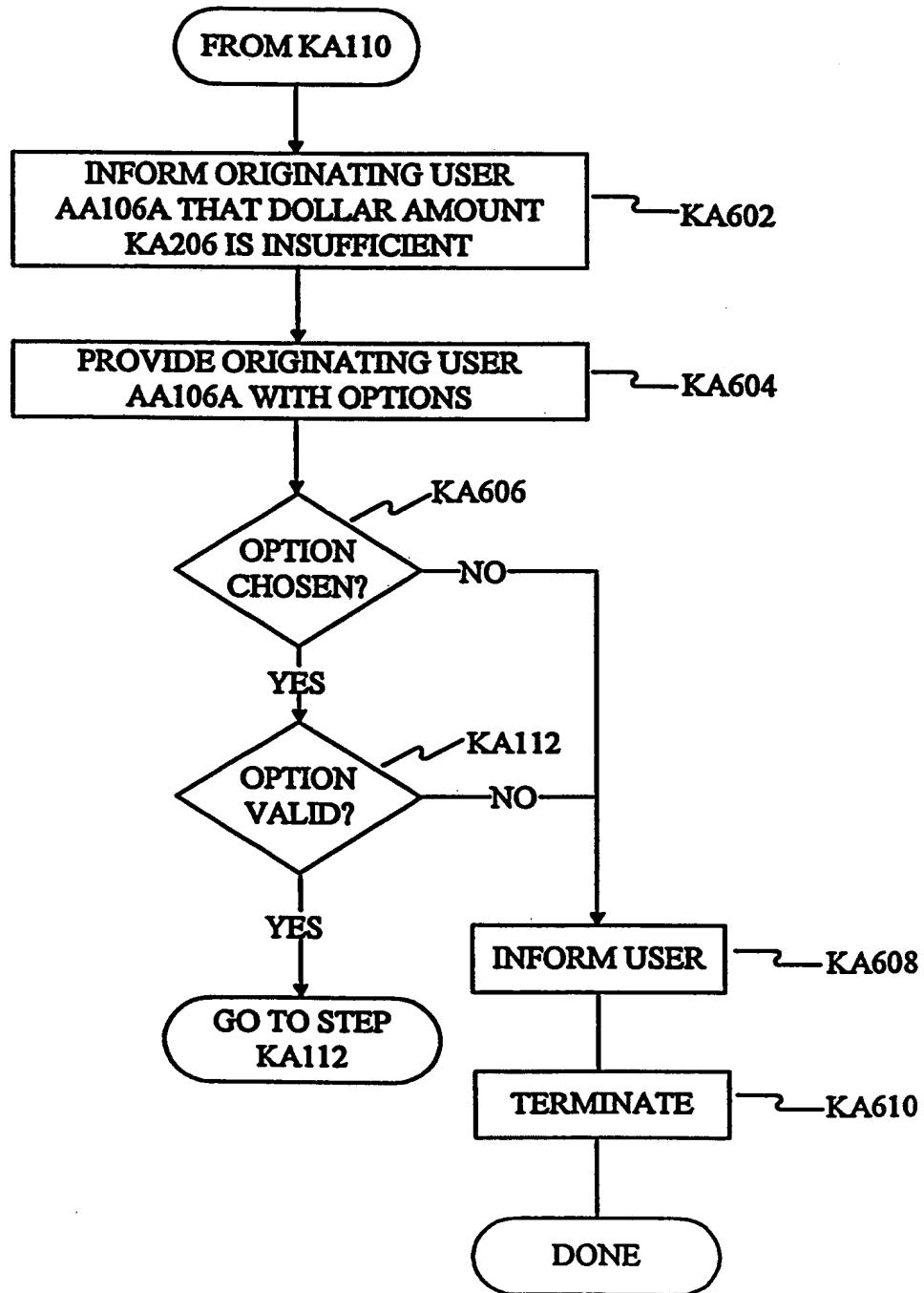


FIG 117

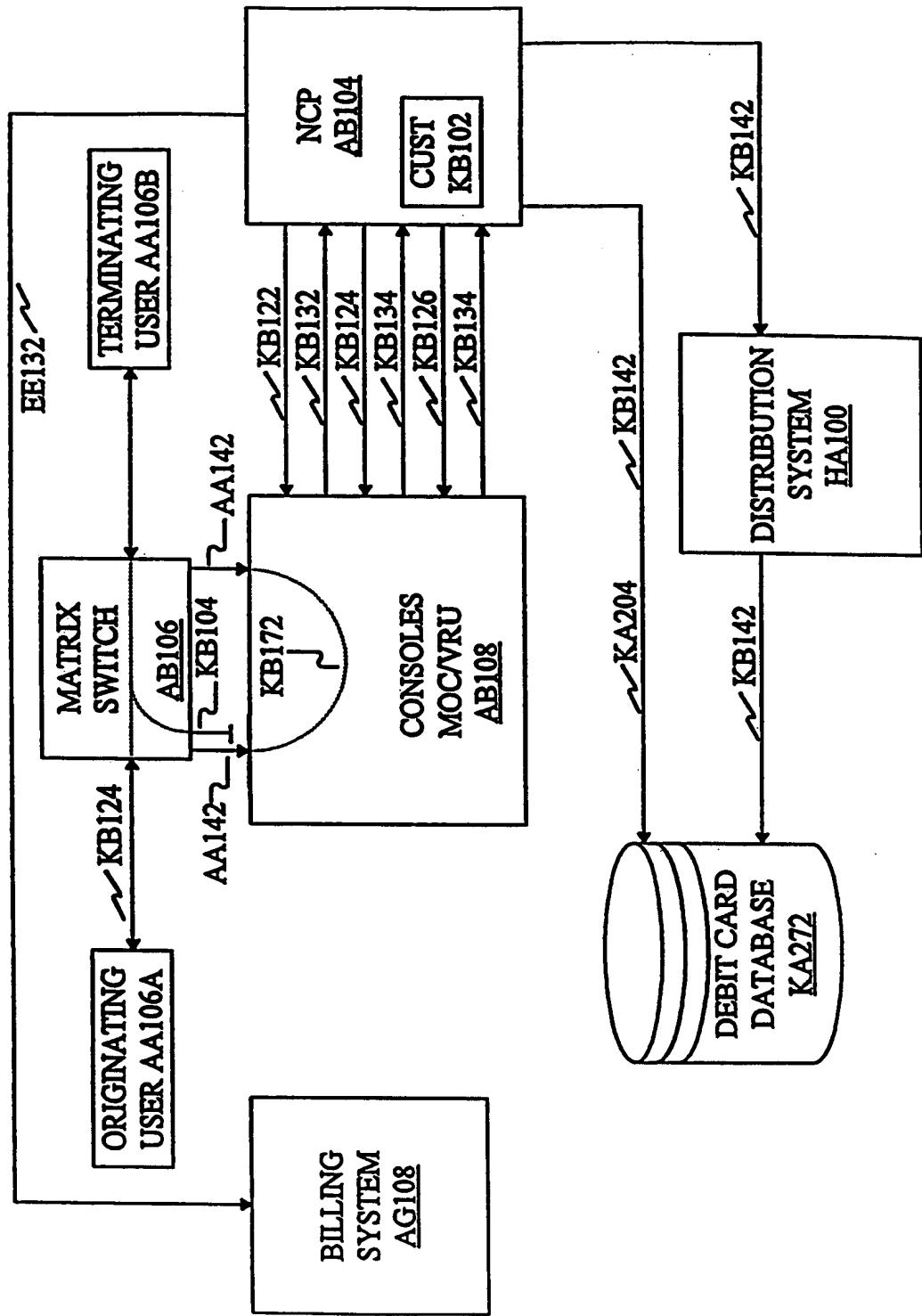


FIG 118

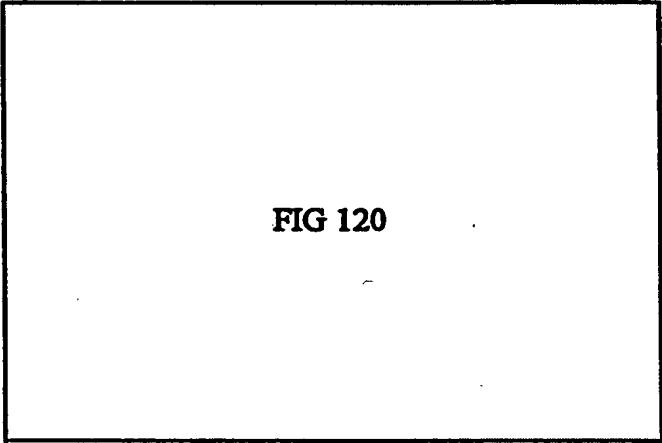


FIG 120

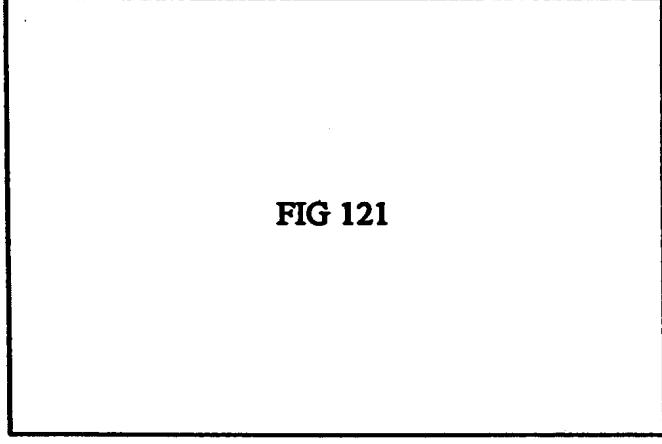


FIG 121

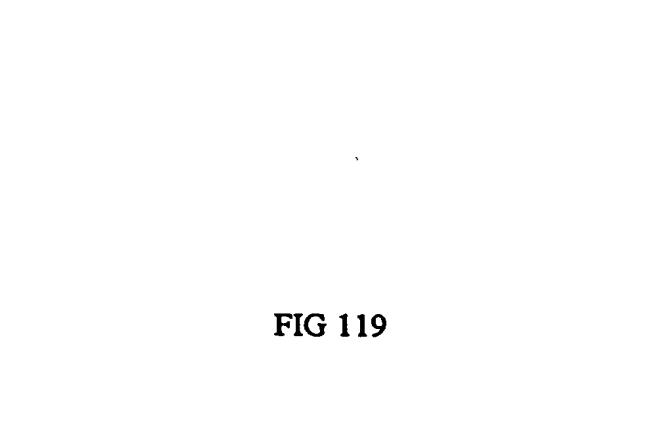


FIG 119

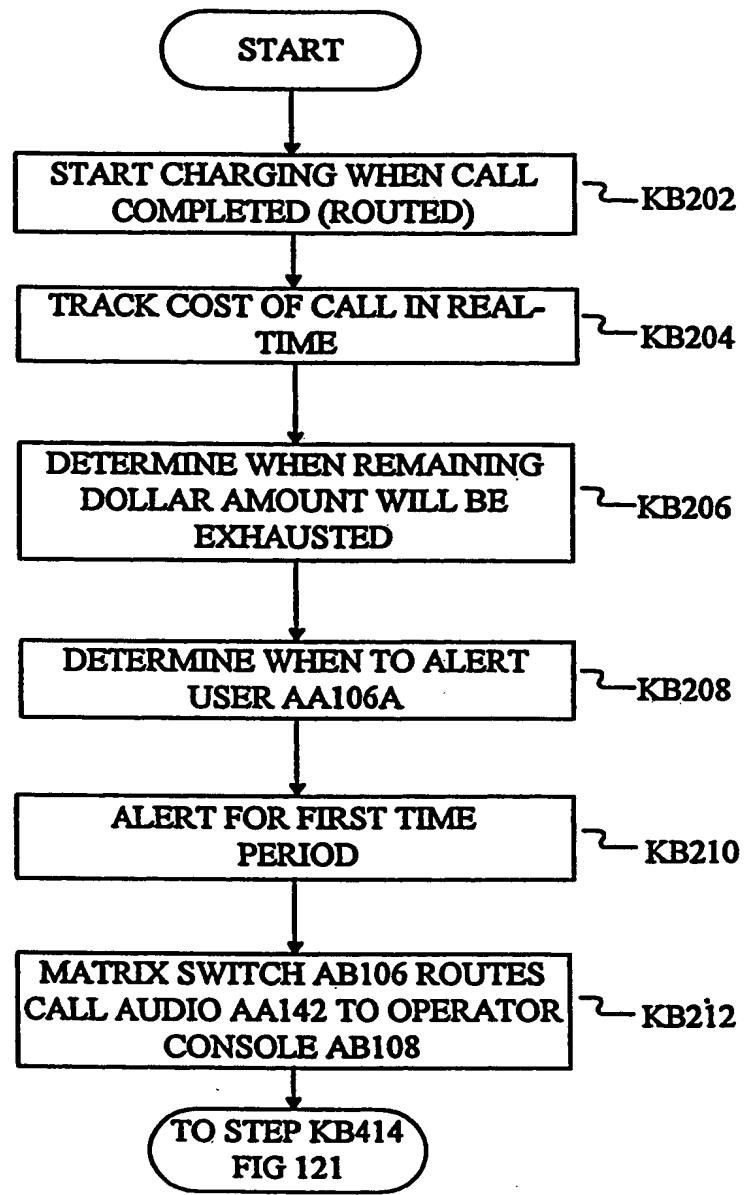


FIG 120

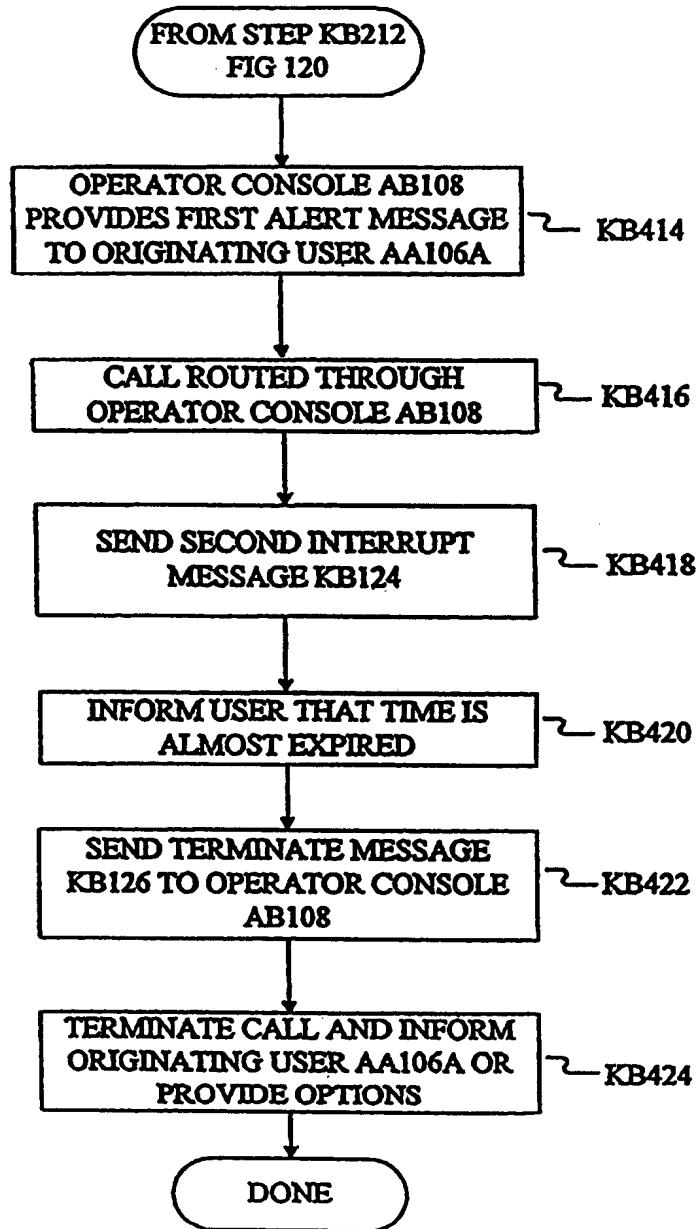


FIG 121

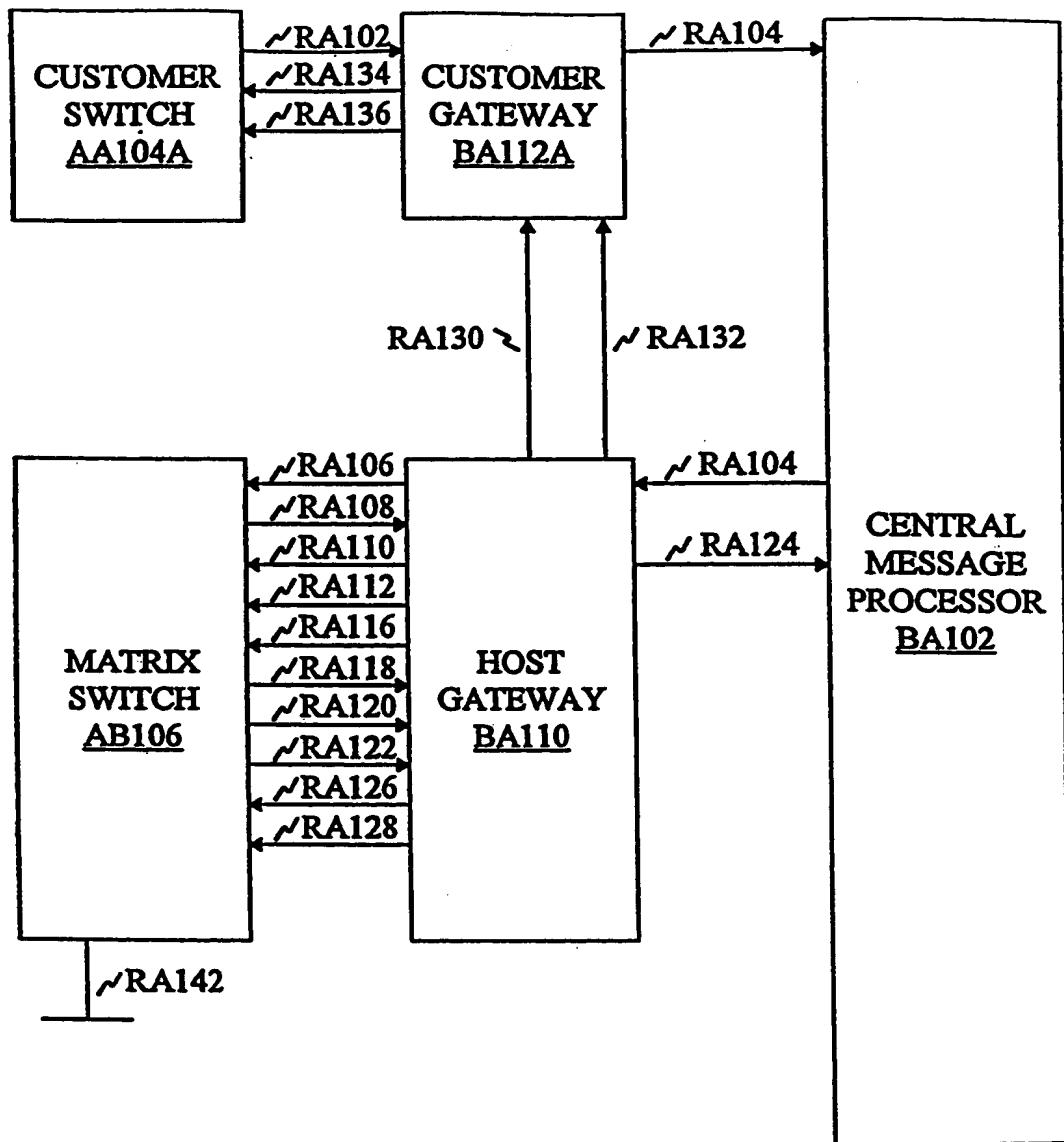


FIG 122

FIG 124

FIG 125

FIG 123

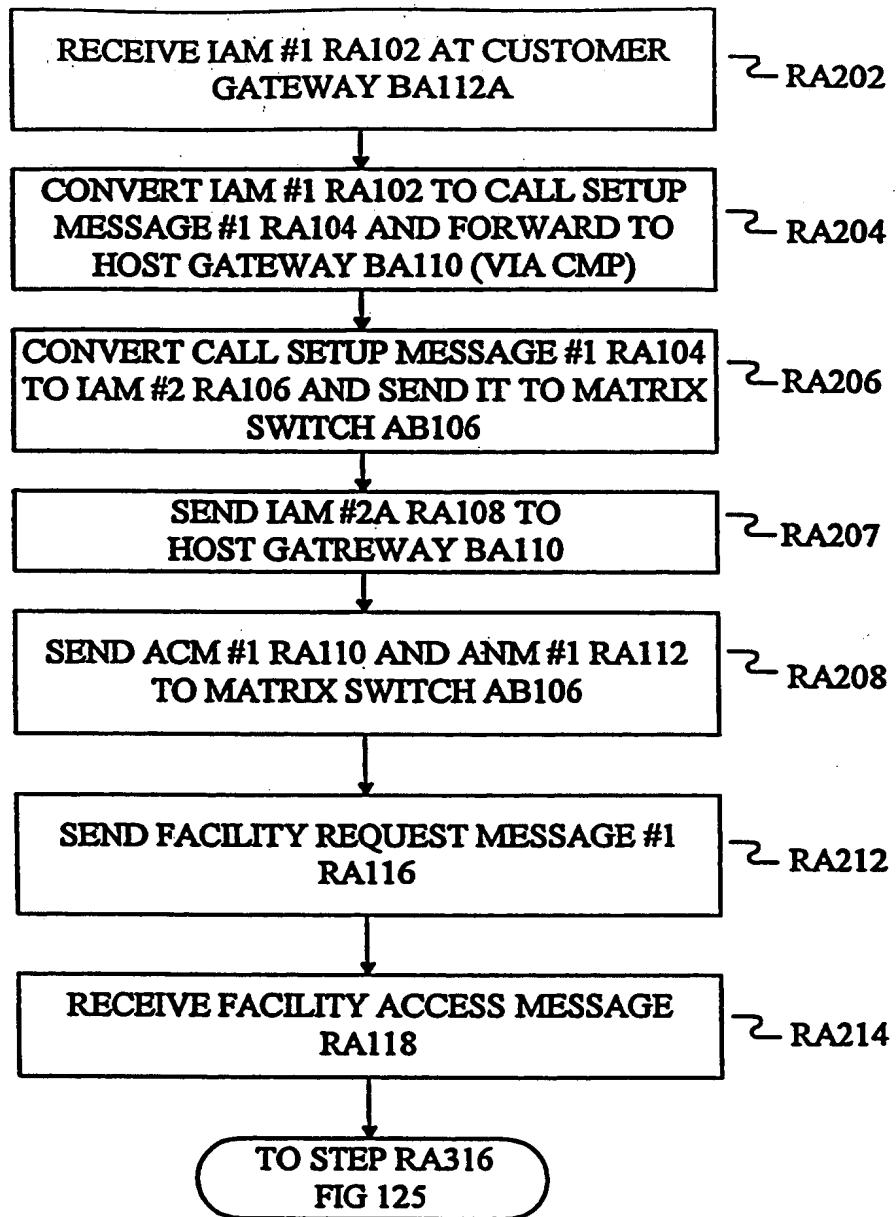


FIG 124

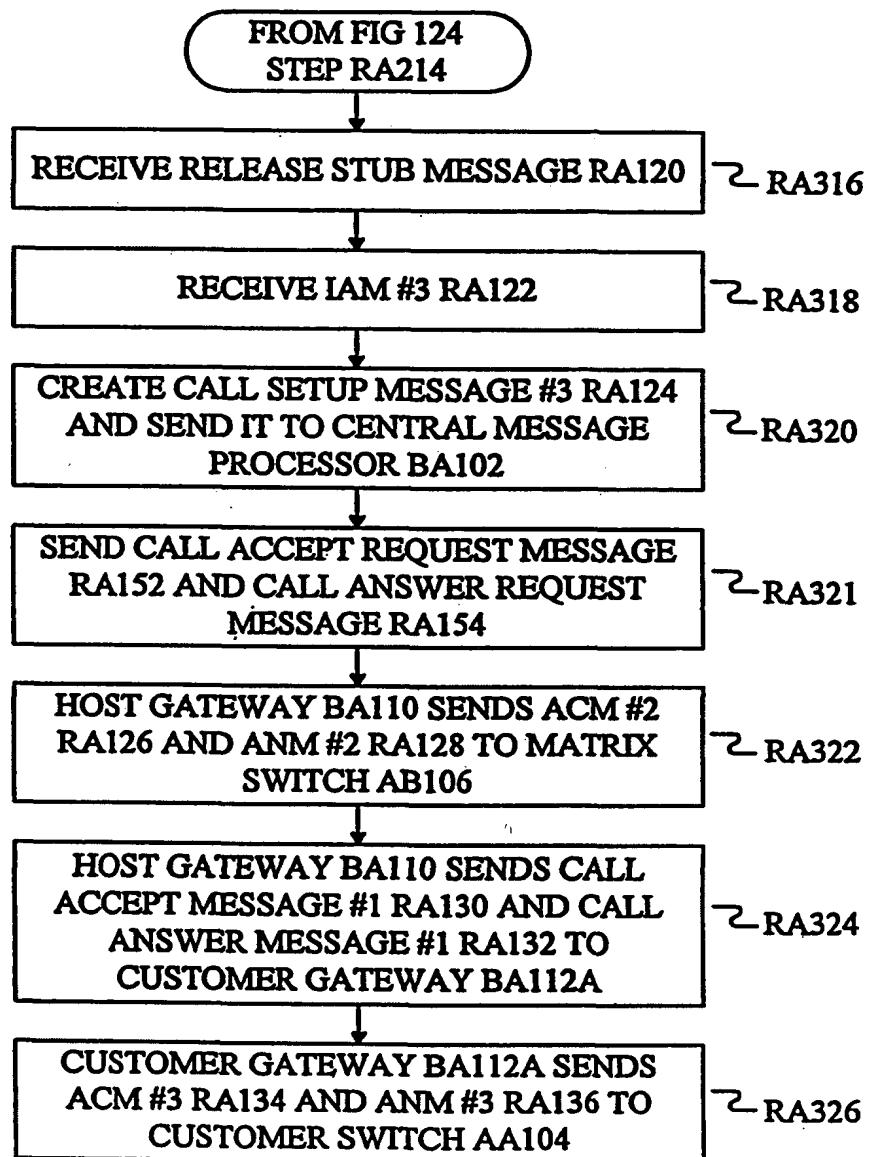


FIG 125

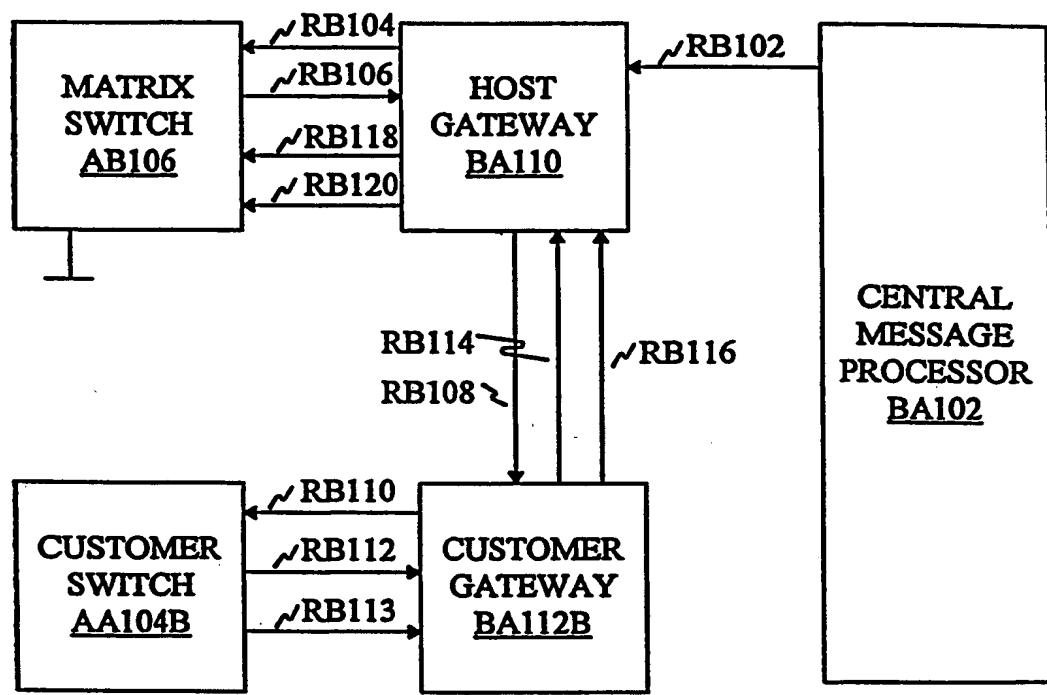


FIG 126

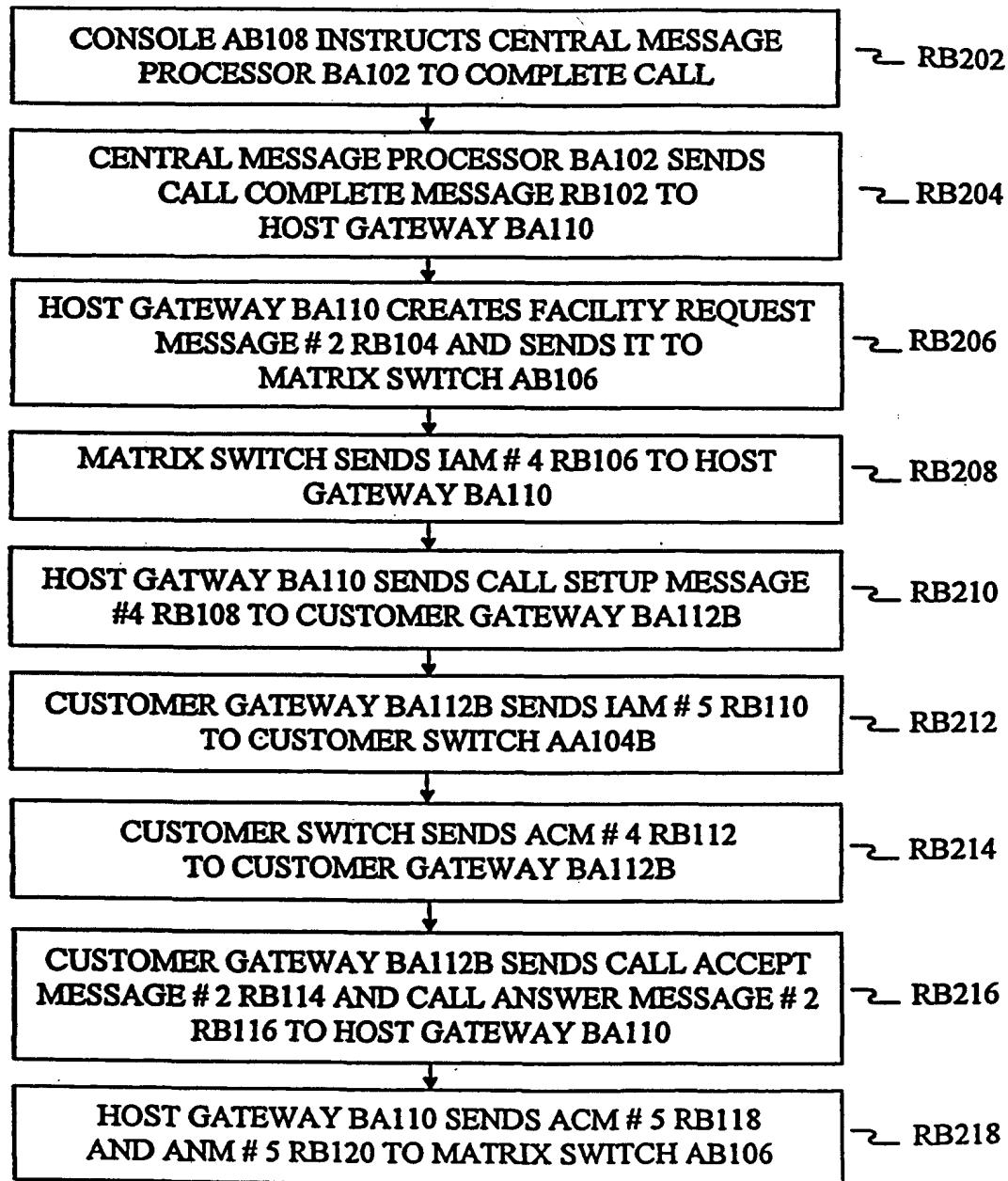


FIG 127

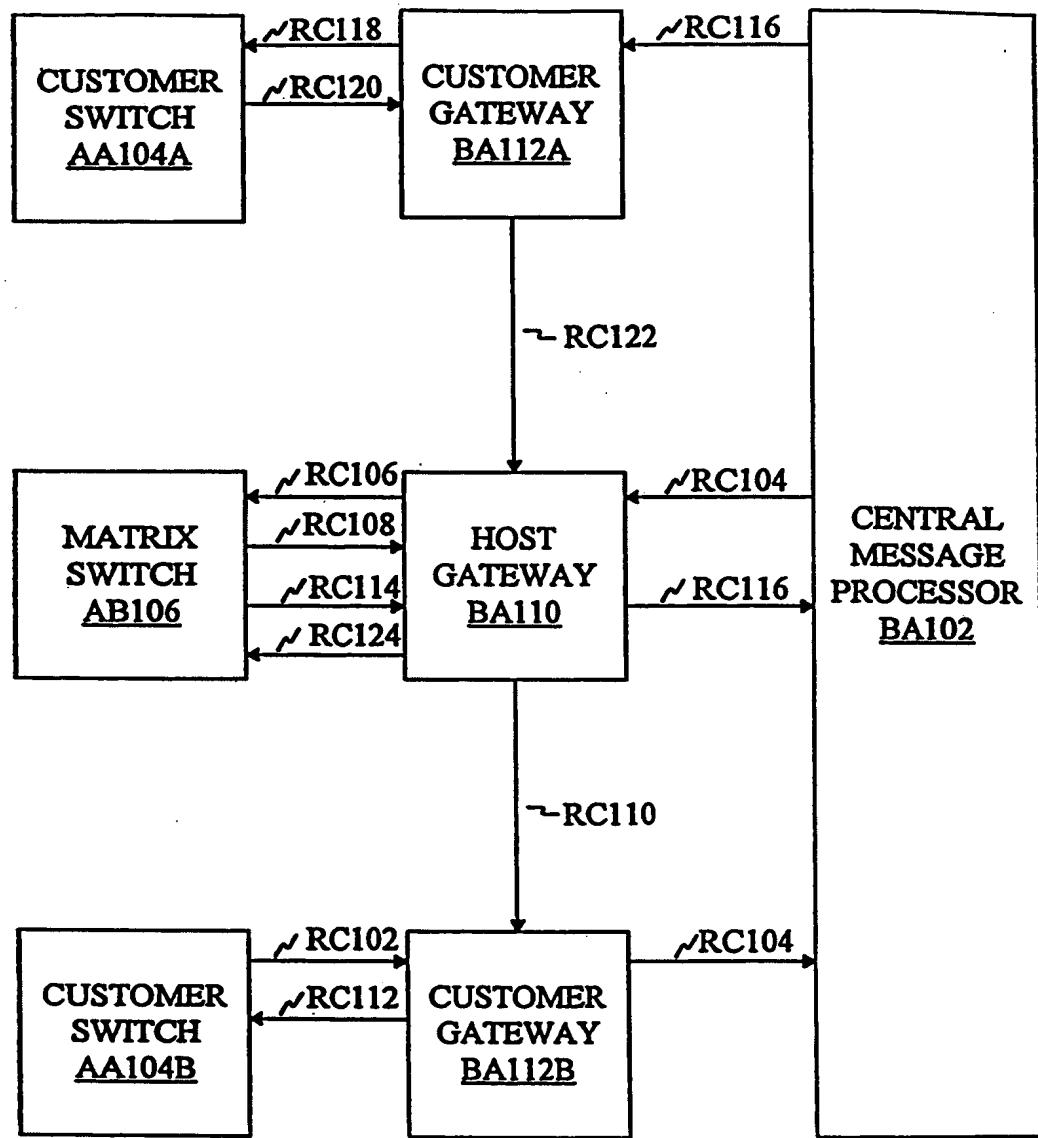


FIG 128

FIG 130

FIG 131

FIG 129

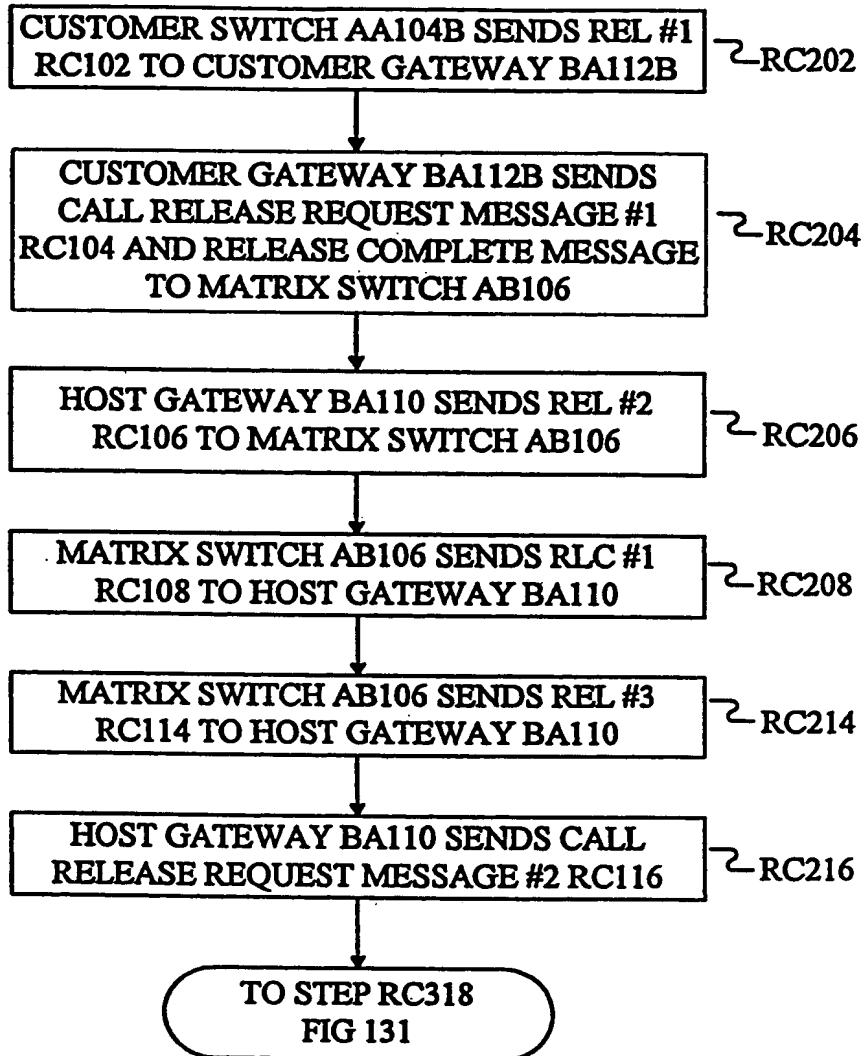


FIG 130

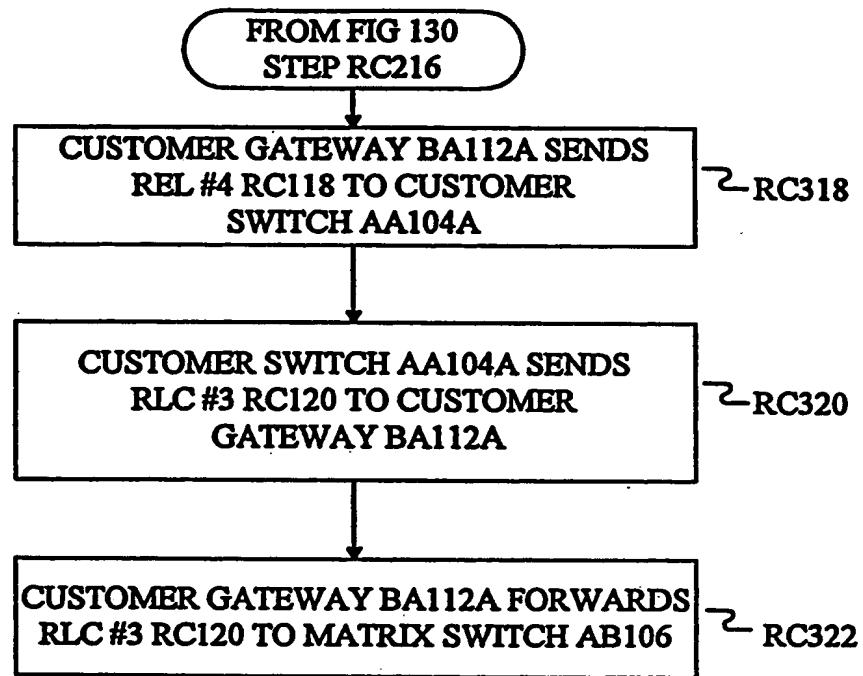


FIG 131

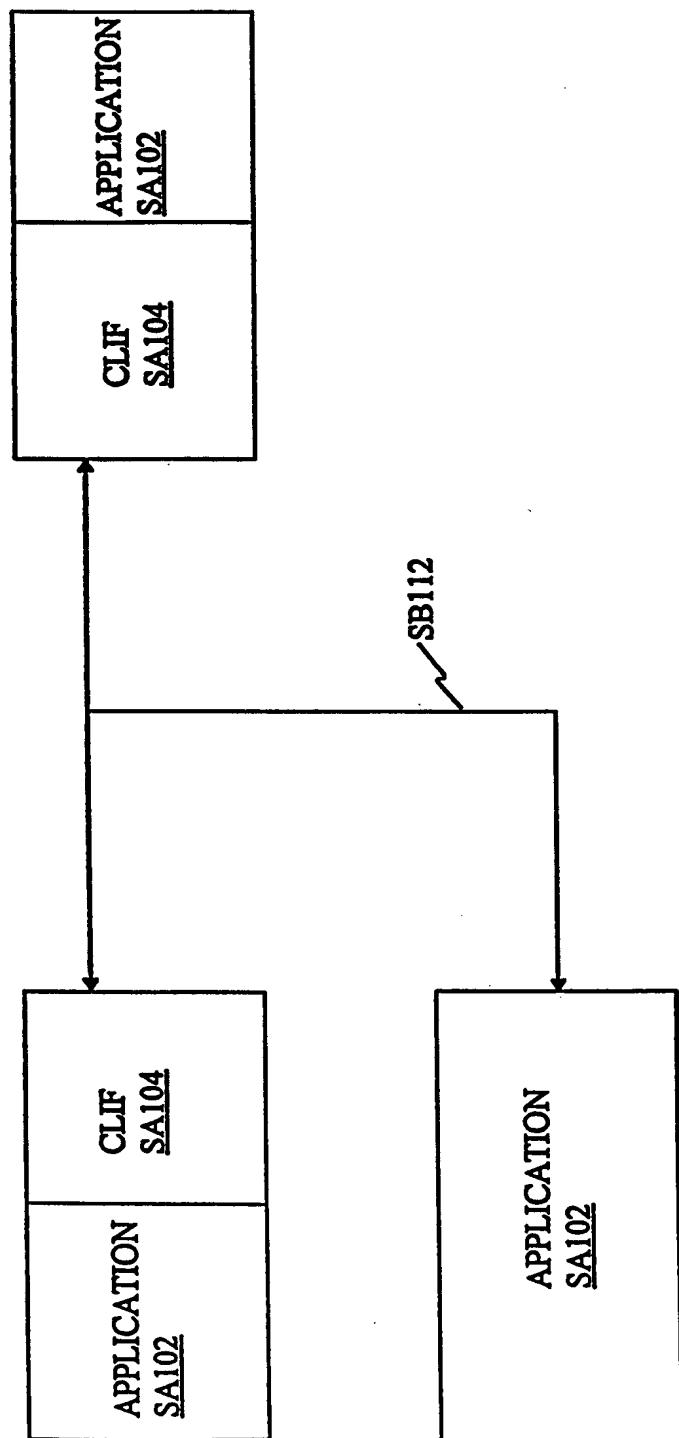


FIG 132

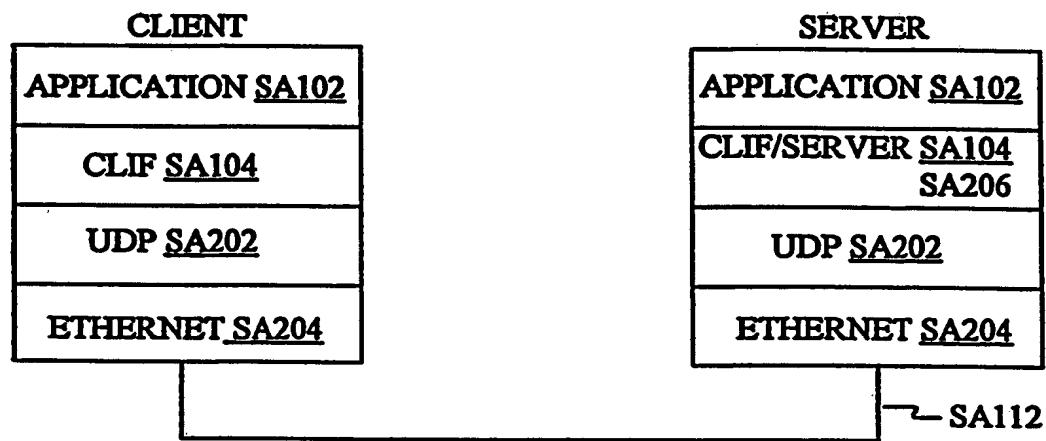


FIG 133

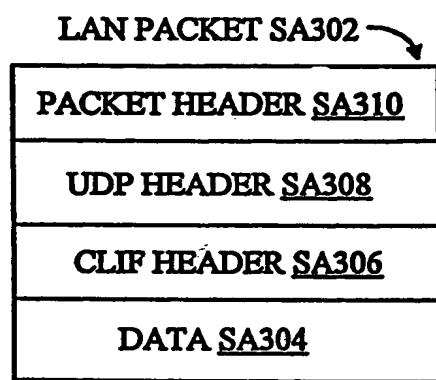


FIG 134

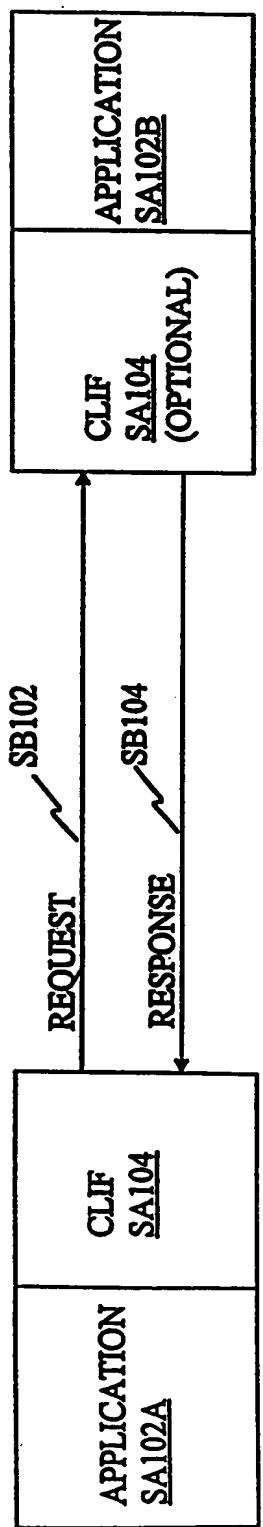


FIG 135

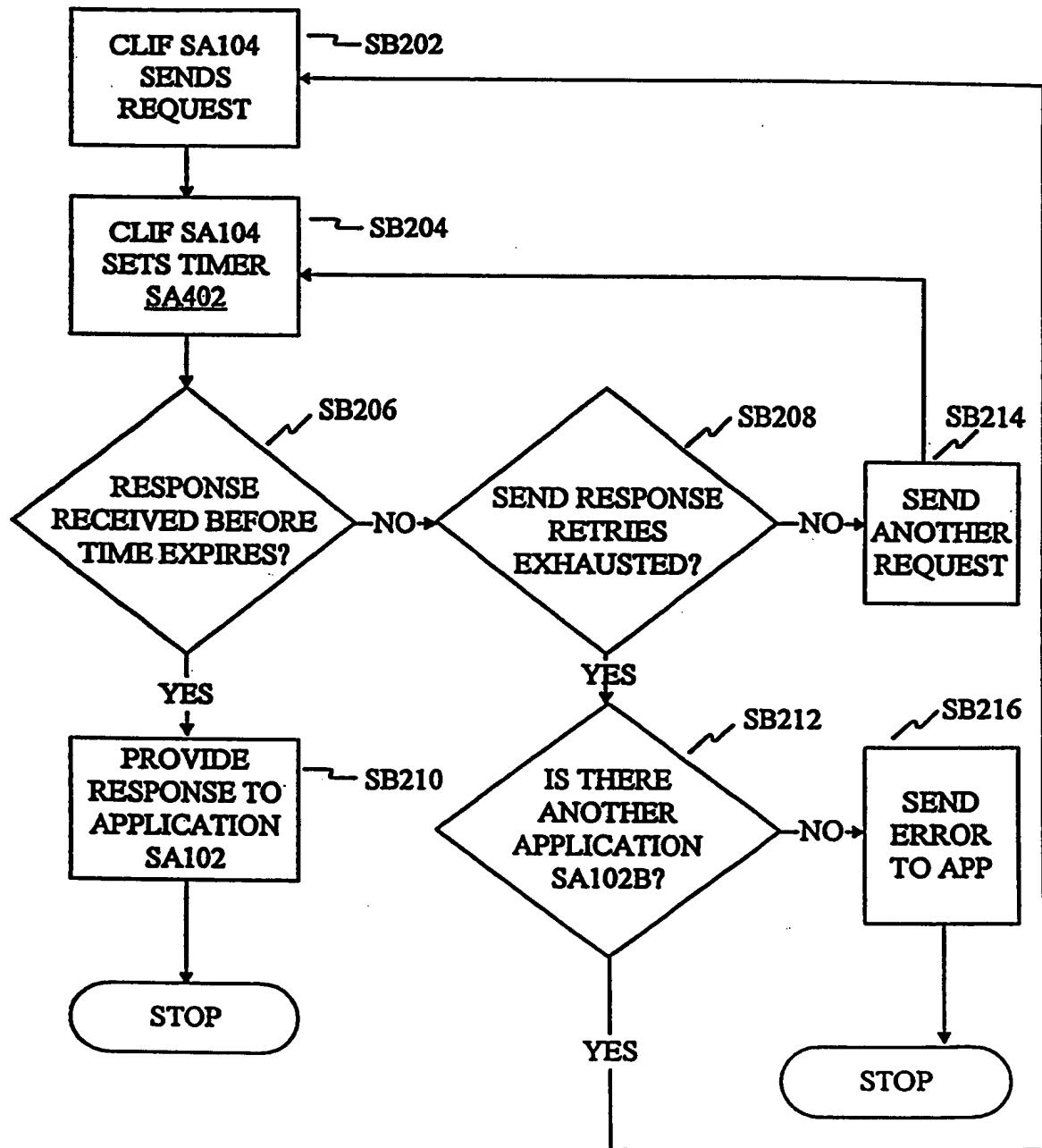


FIG 136

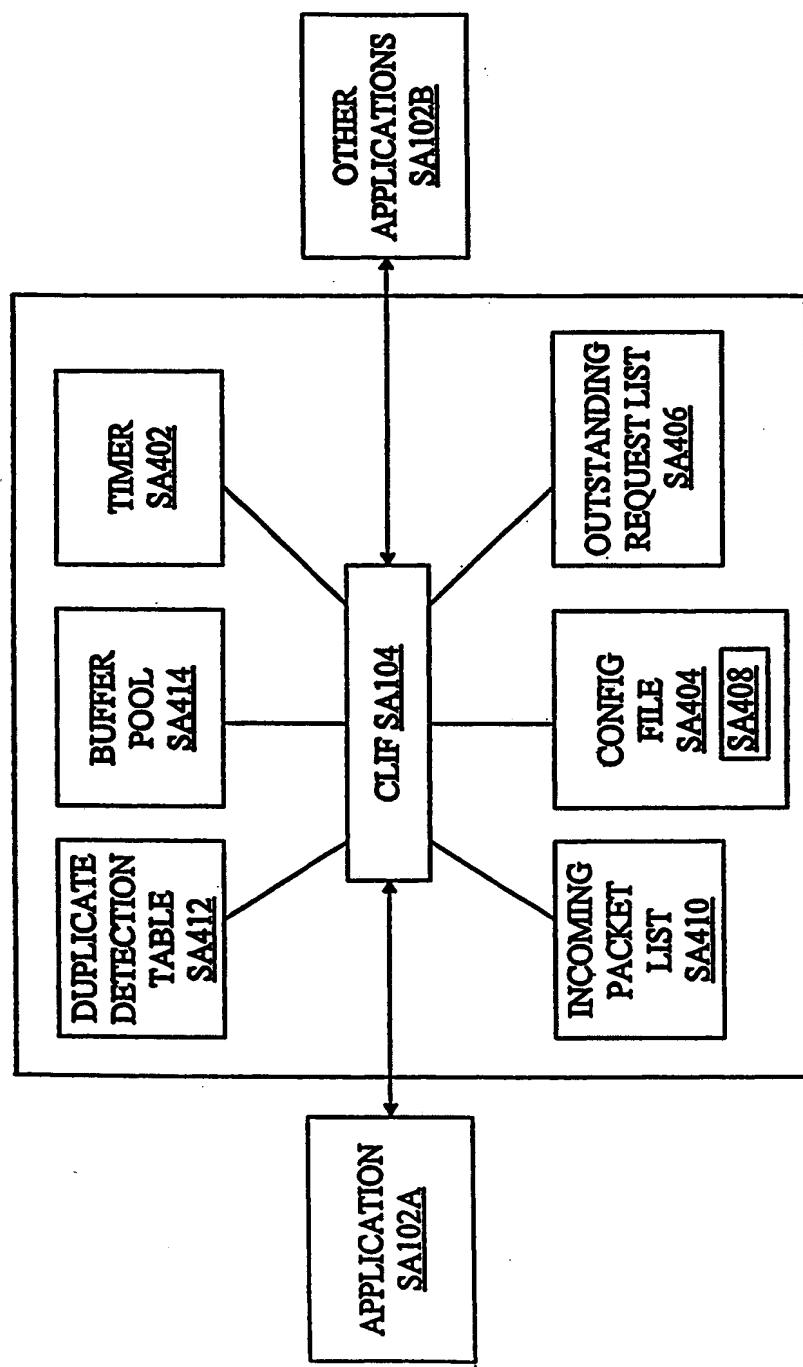


FIG 137

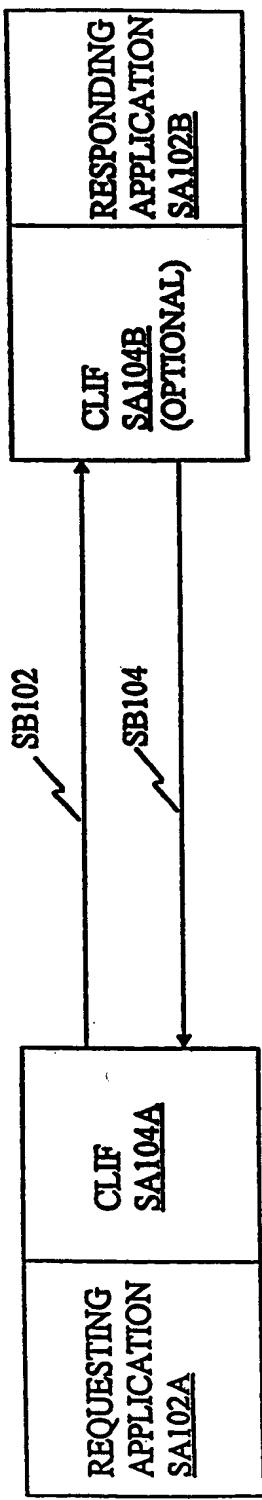


FIG 138

FIG 140

FIG 141

FIG 139

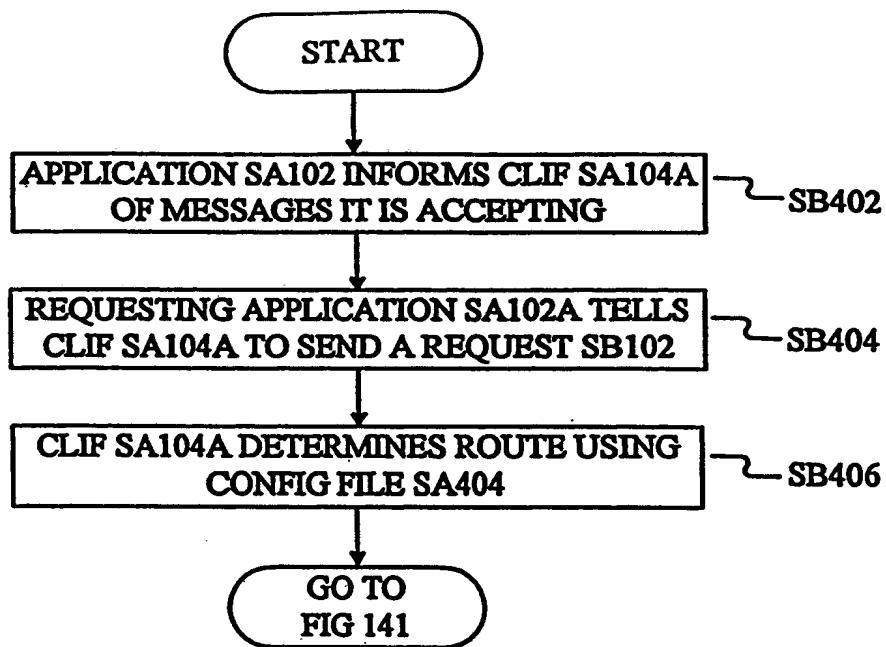


FIG 140

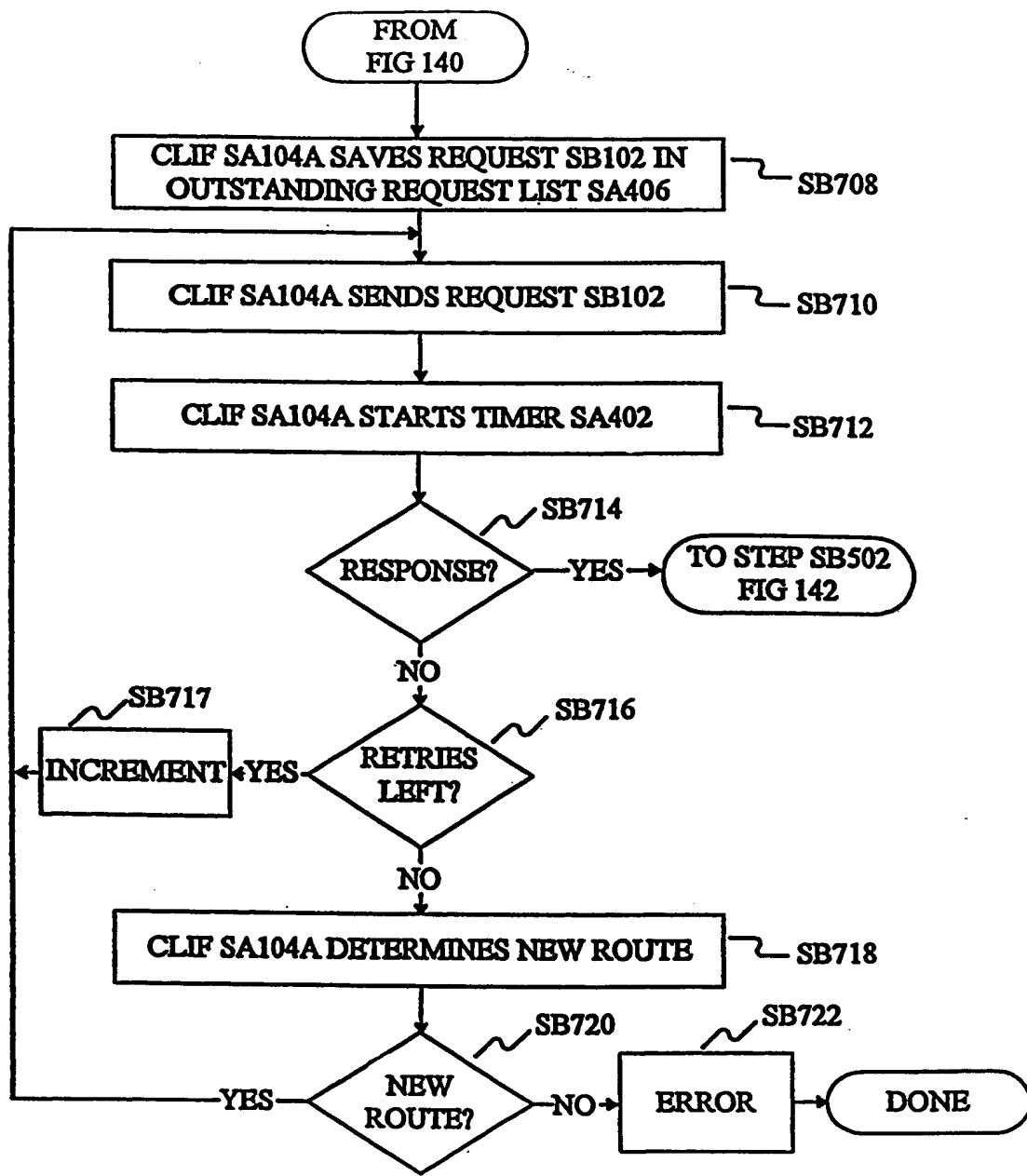


FIG 141

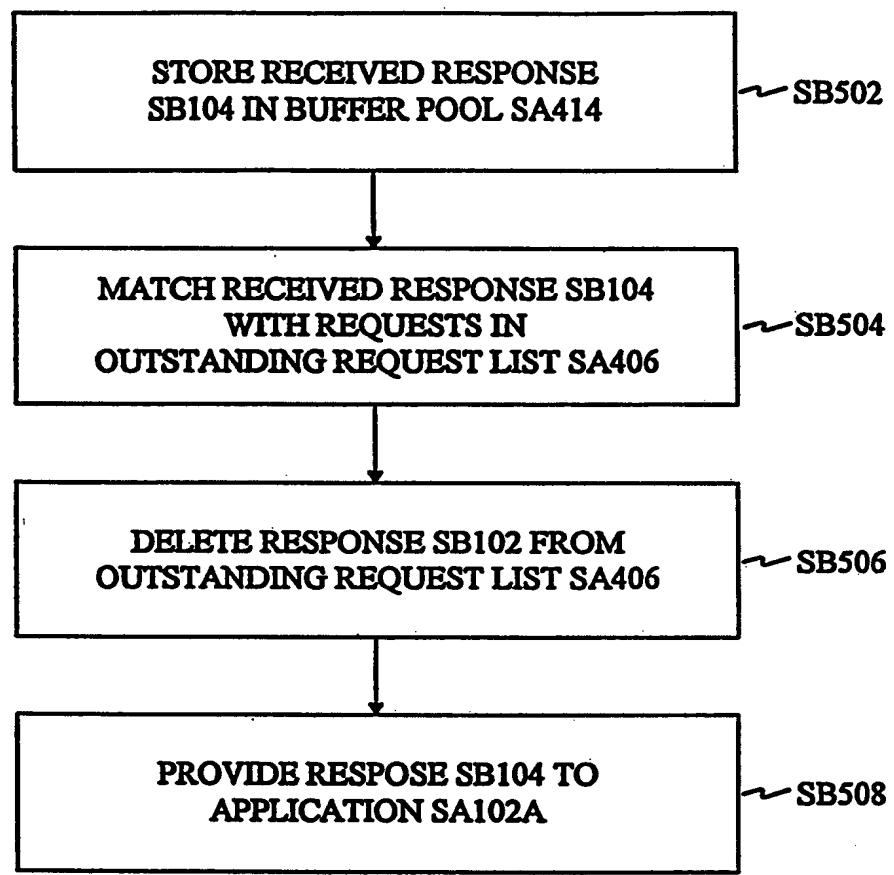


FIG 142

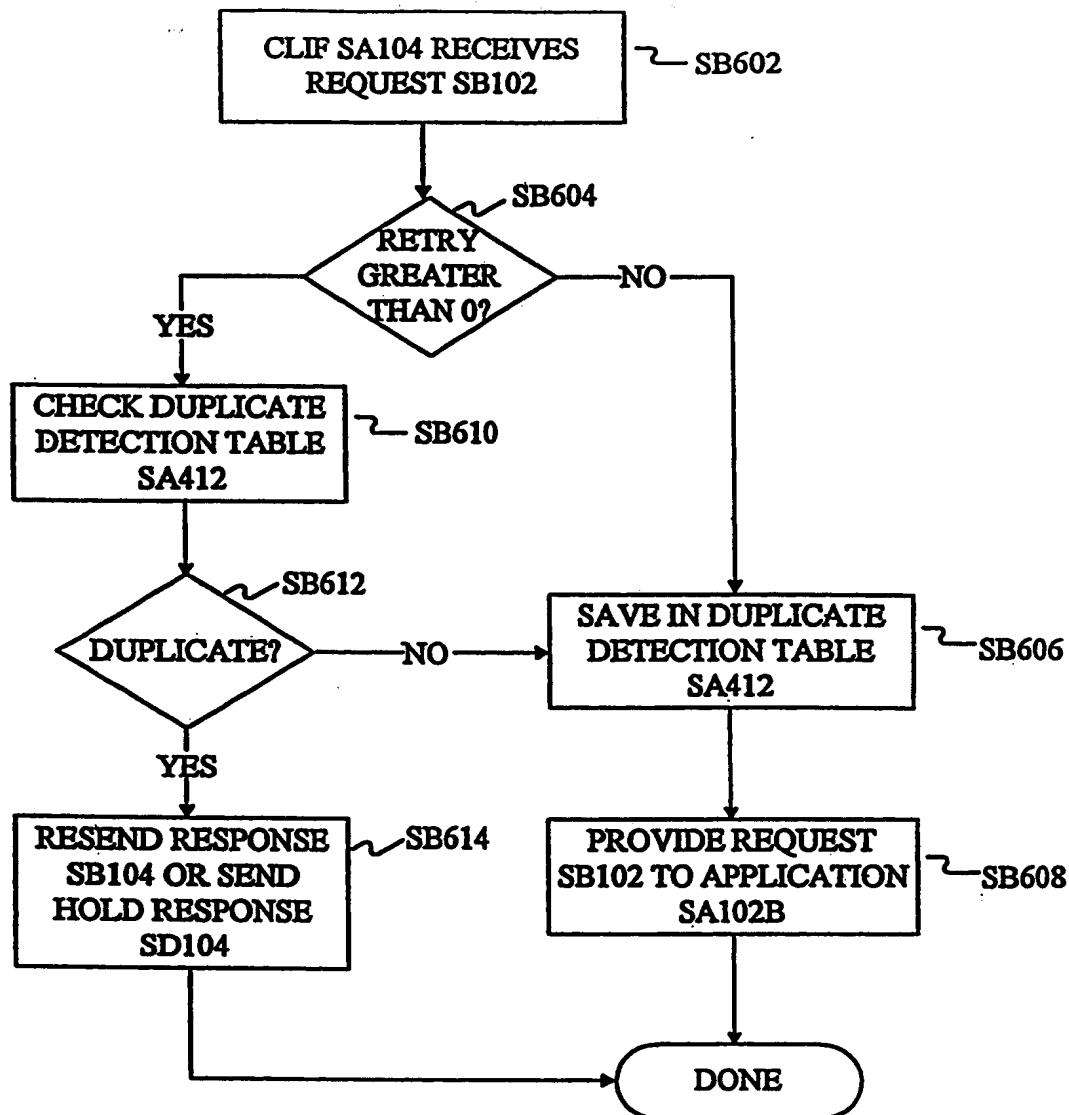


FIG 143

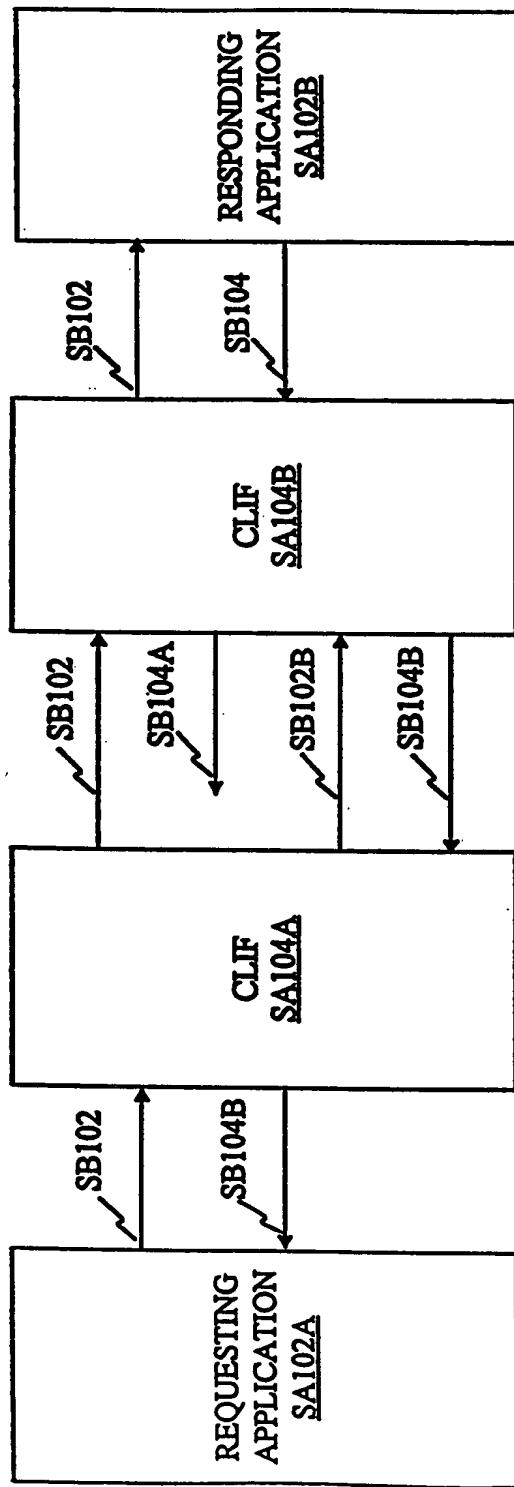


FIG 144

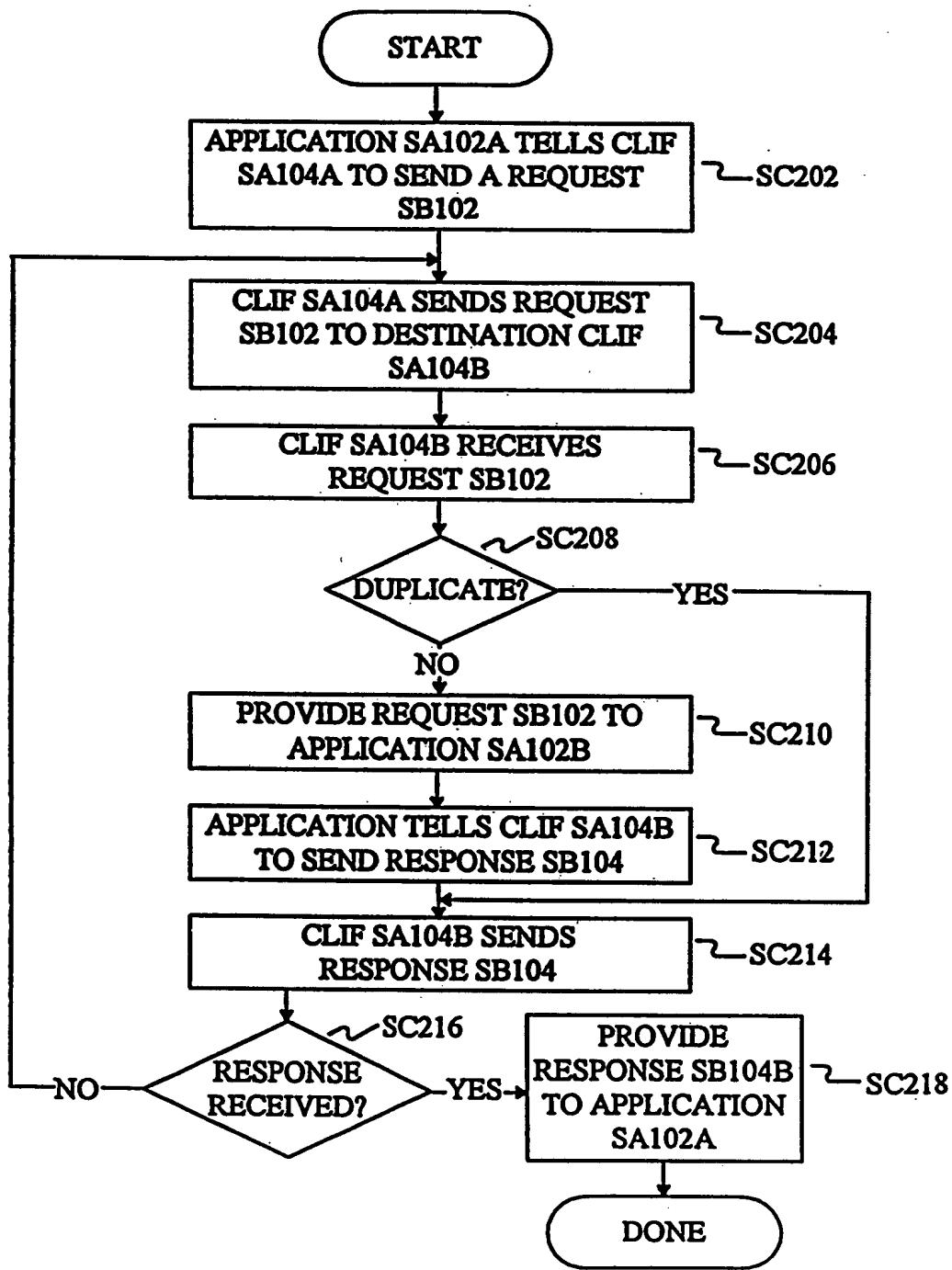


FIG 145

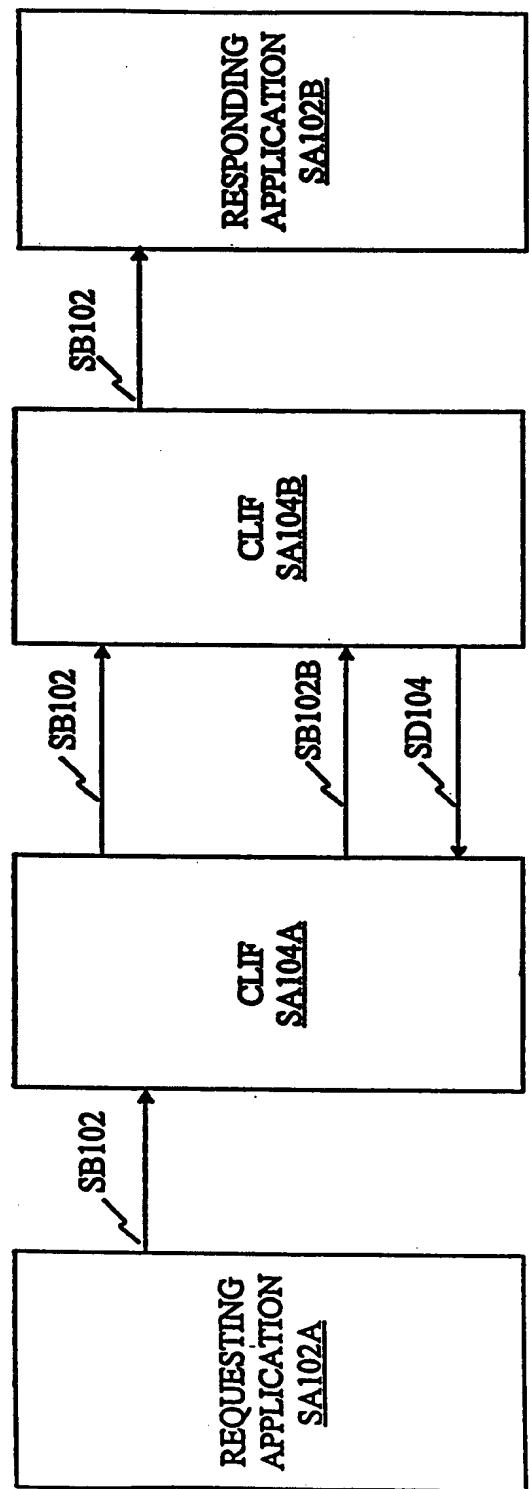


FIG 146

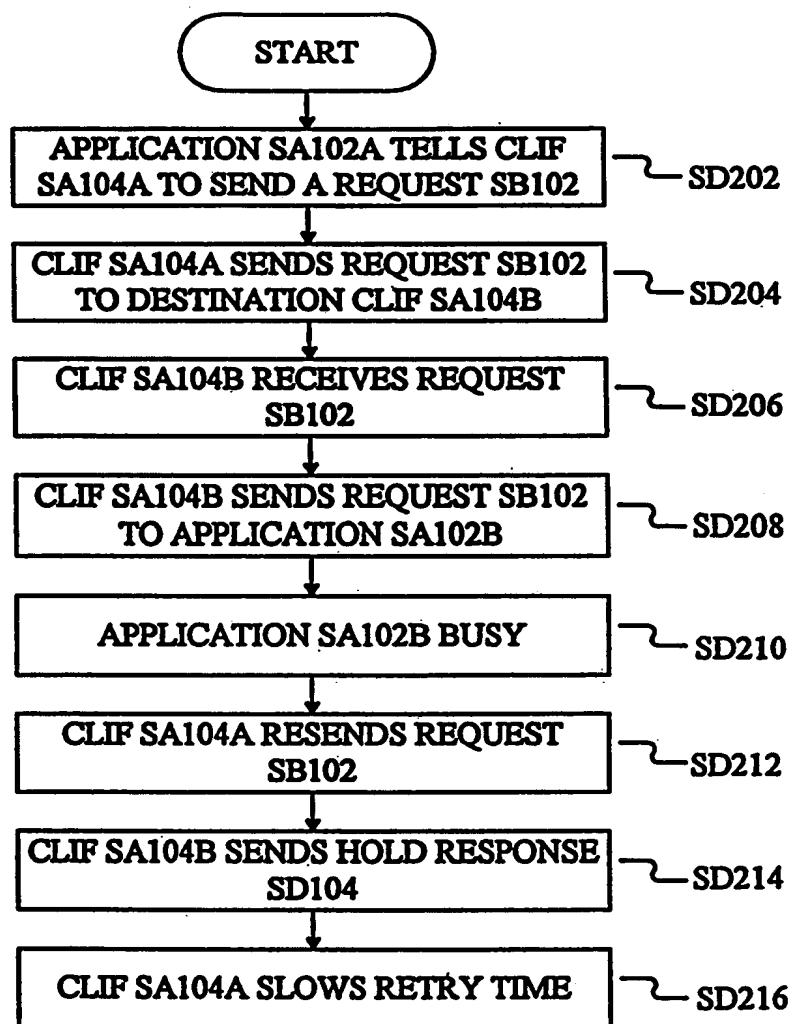


FIG 147

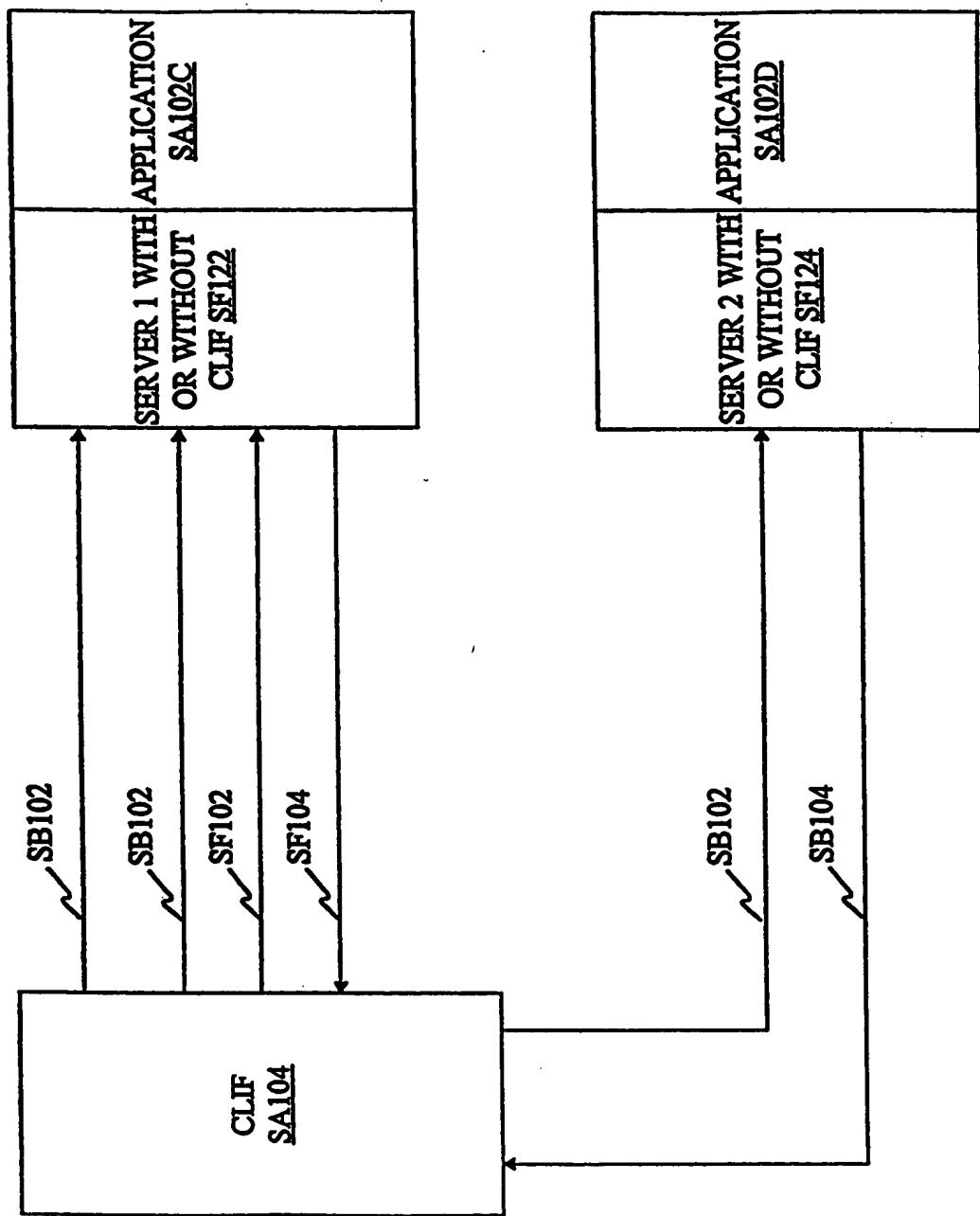


FIG 148

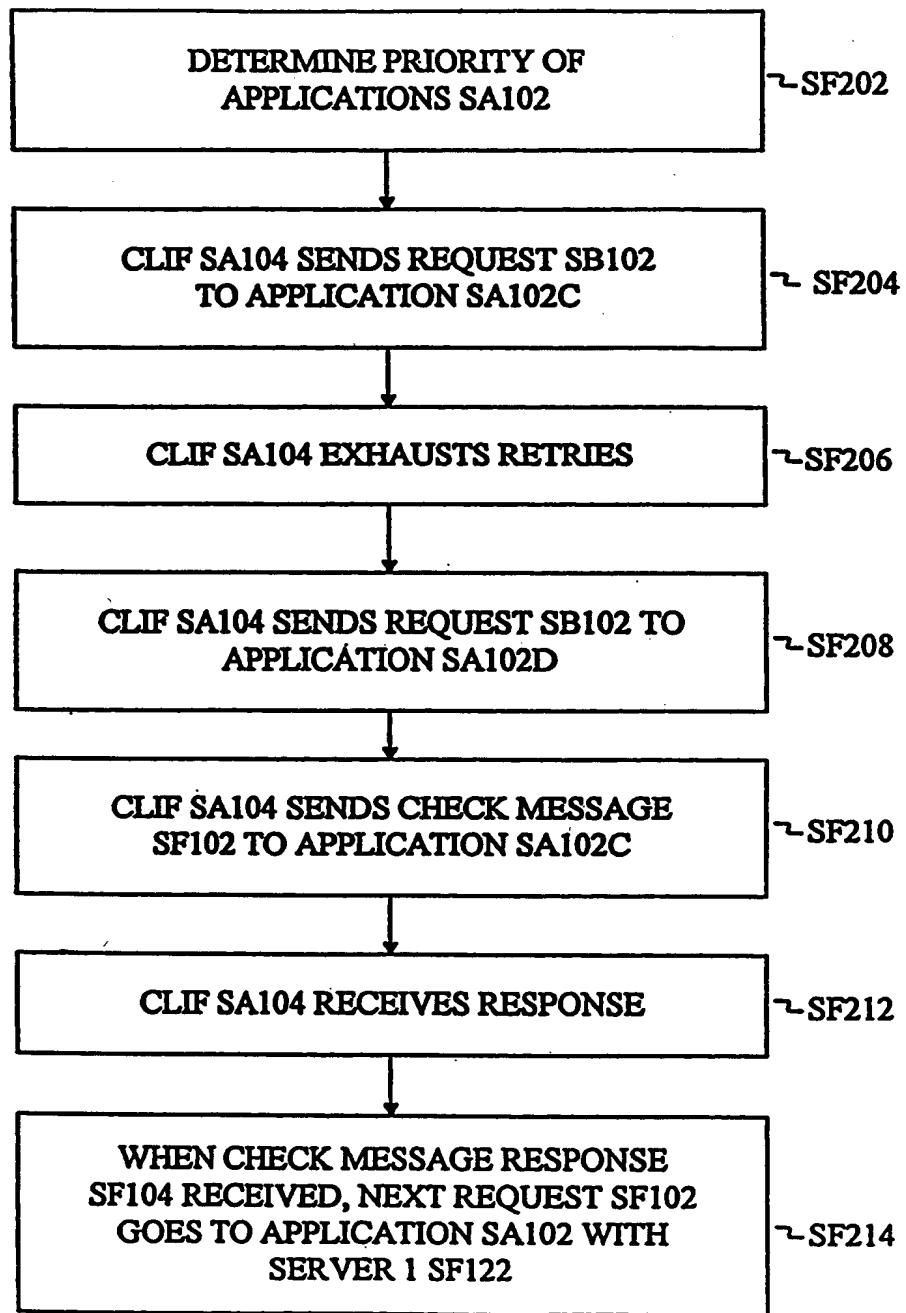


FIG 149

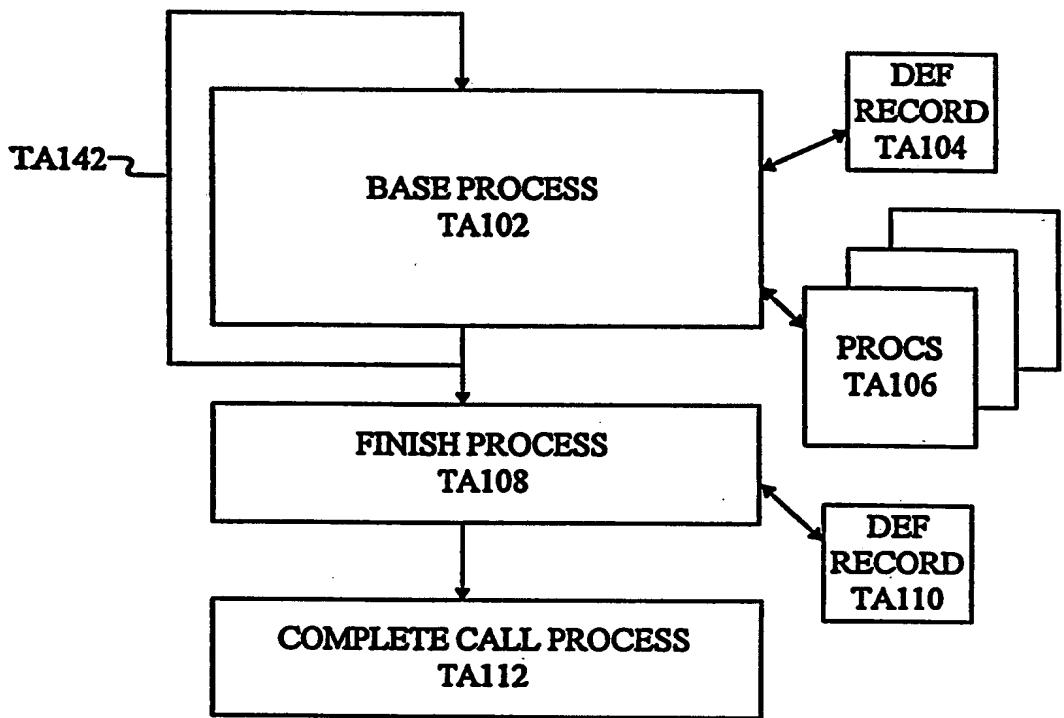


FIG 150

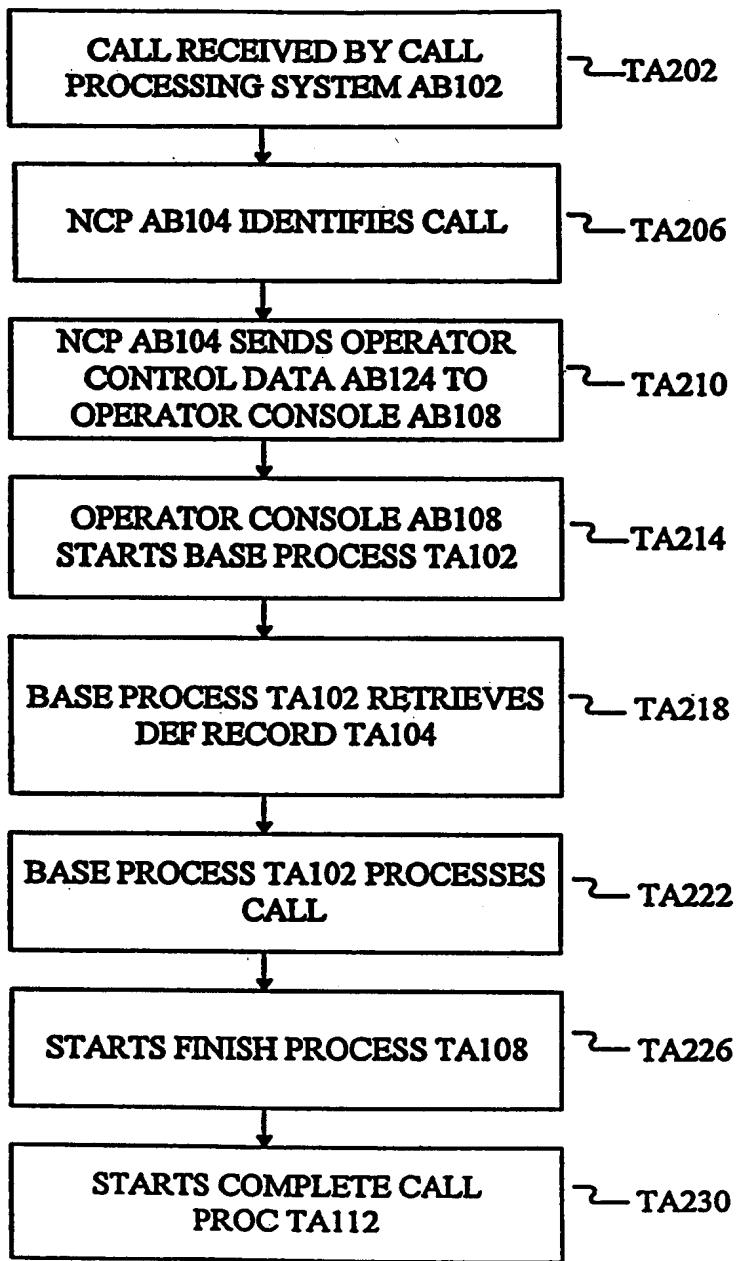


FIG 151

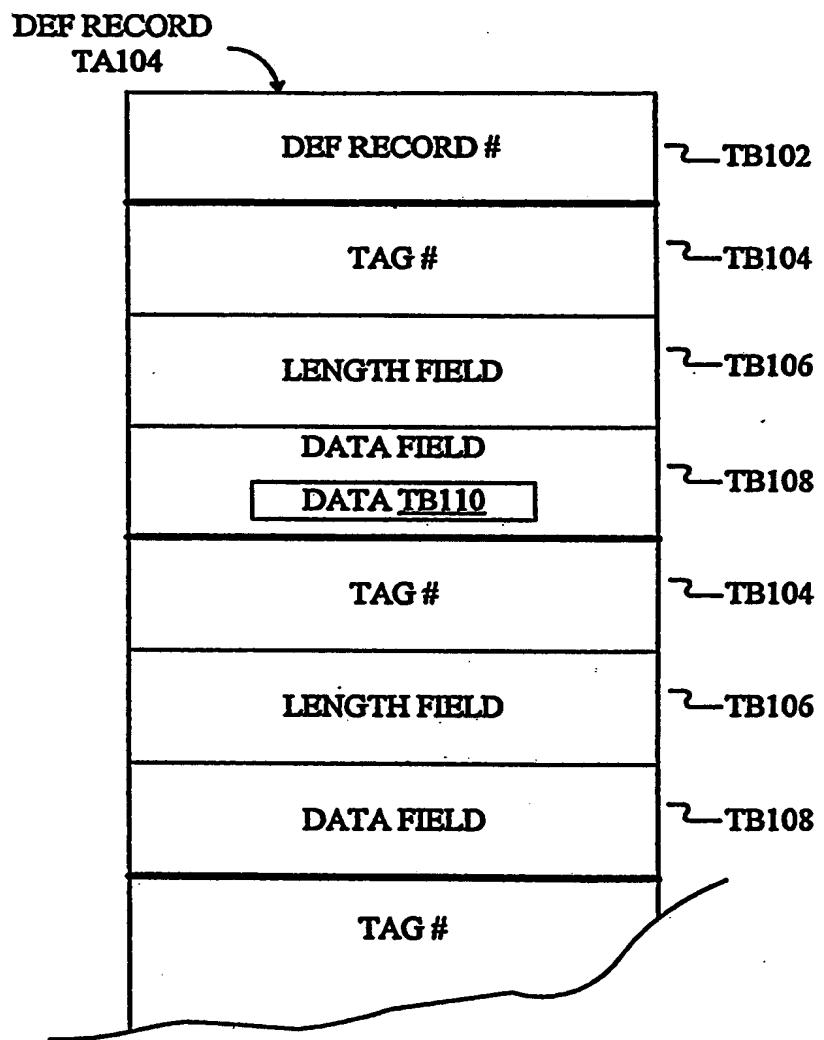


FIG 152

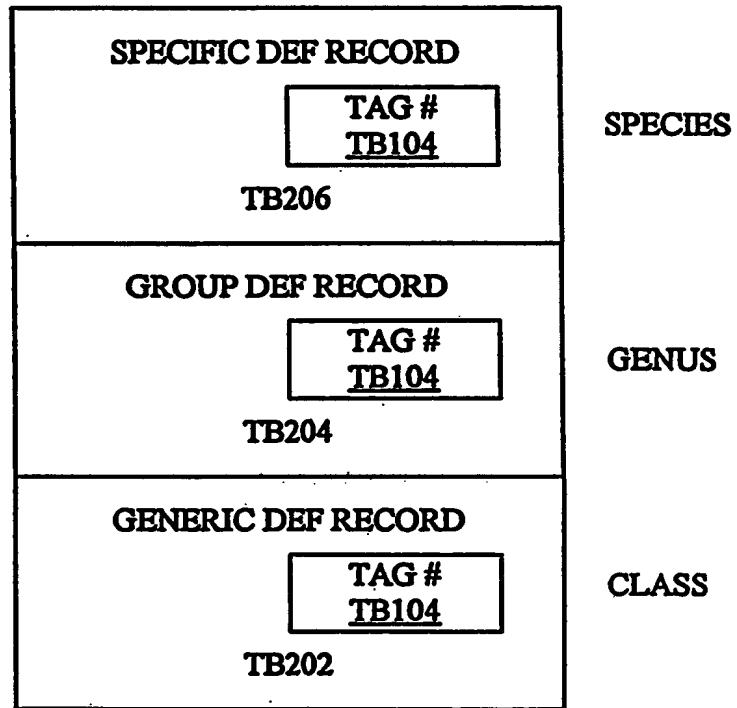


FIG 153

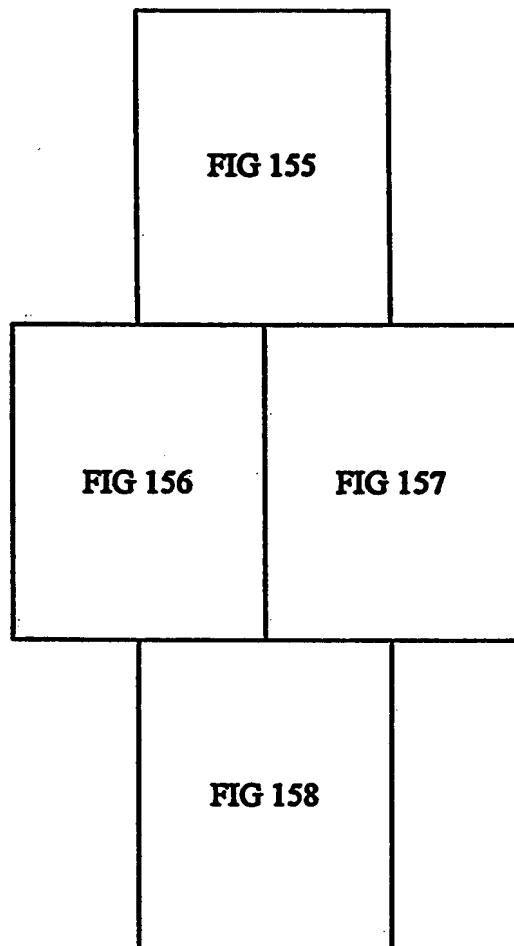


FIG 154

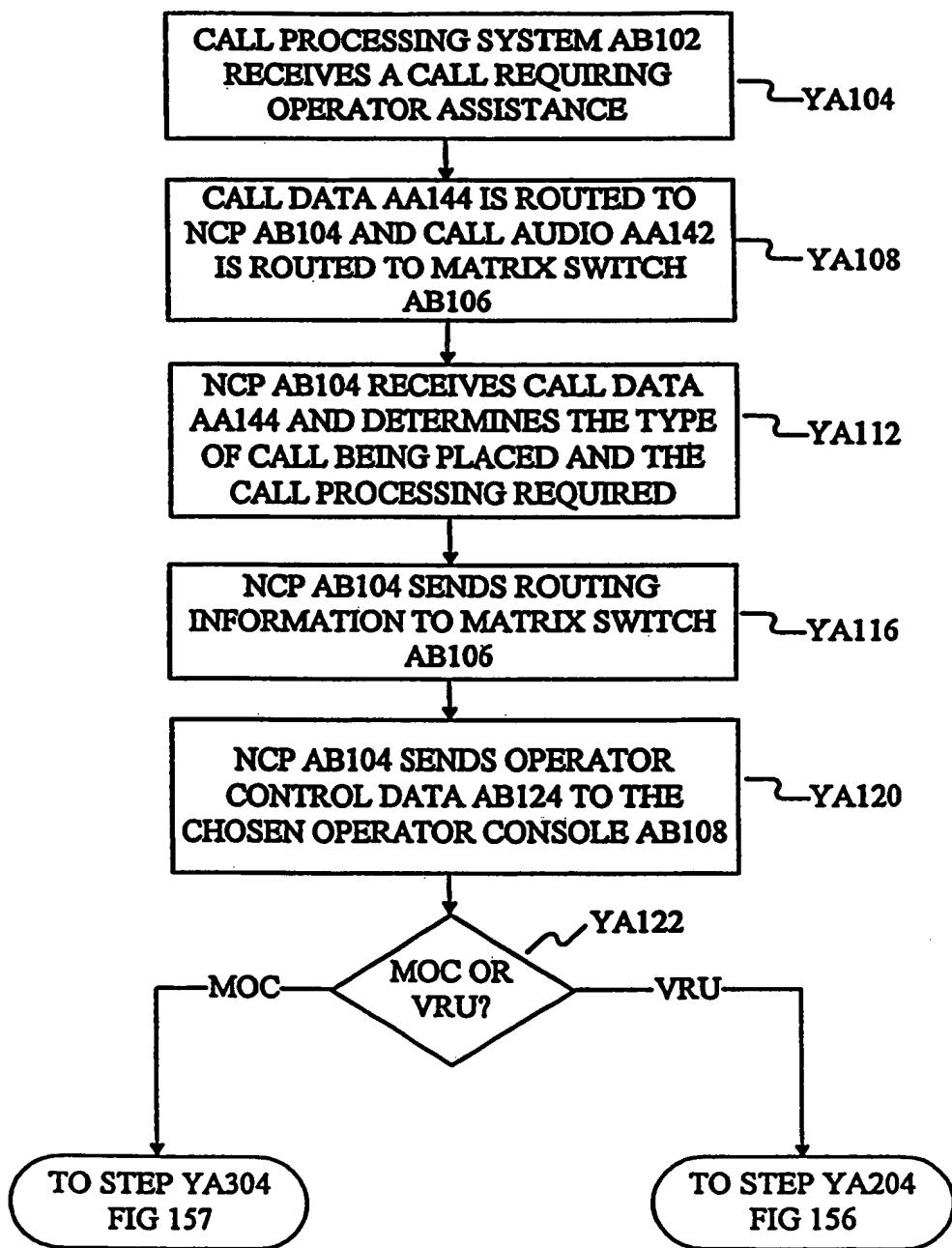


FIG 155

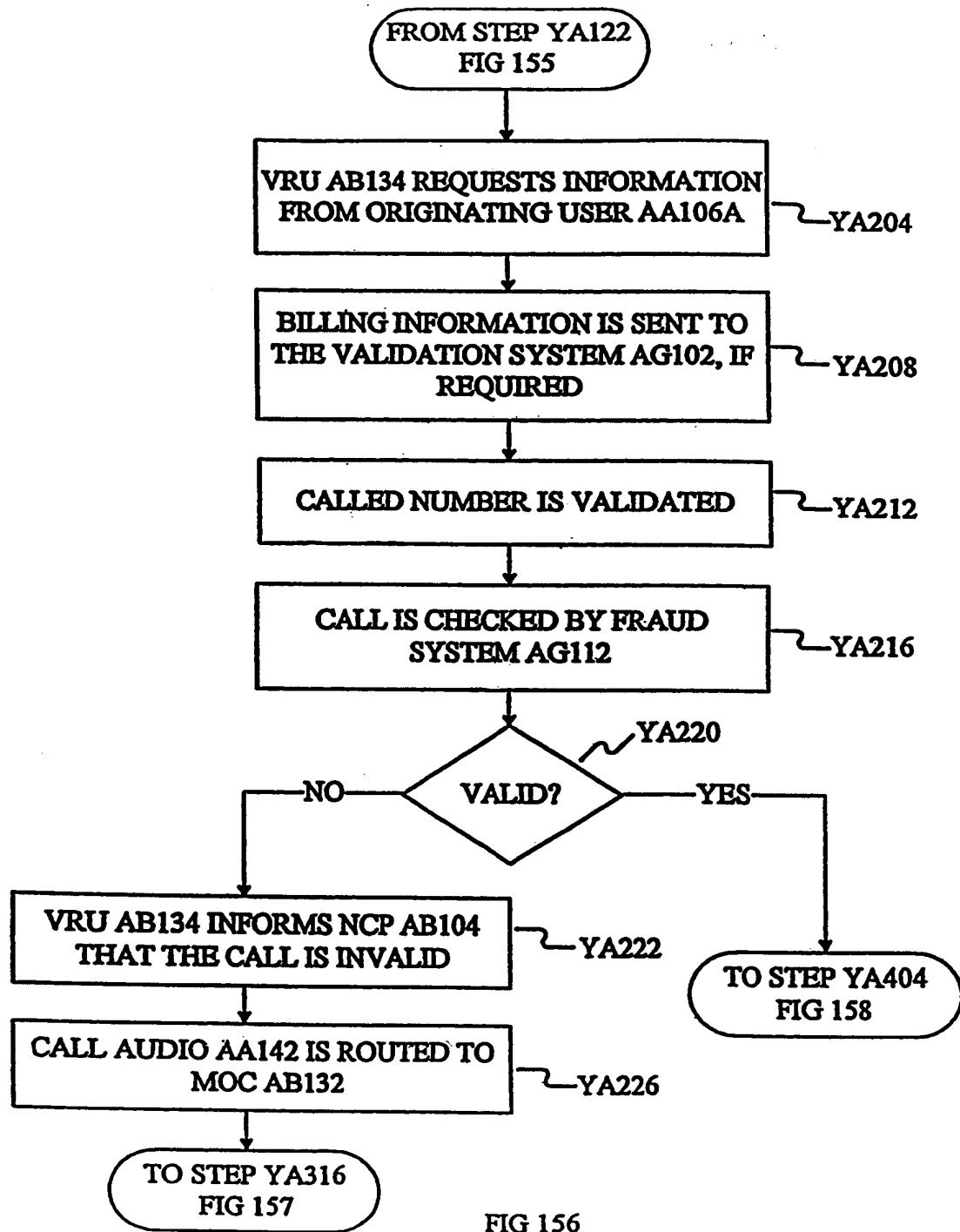


FIG 156

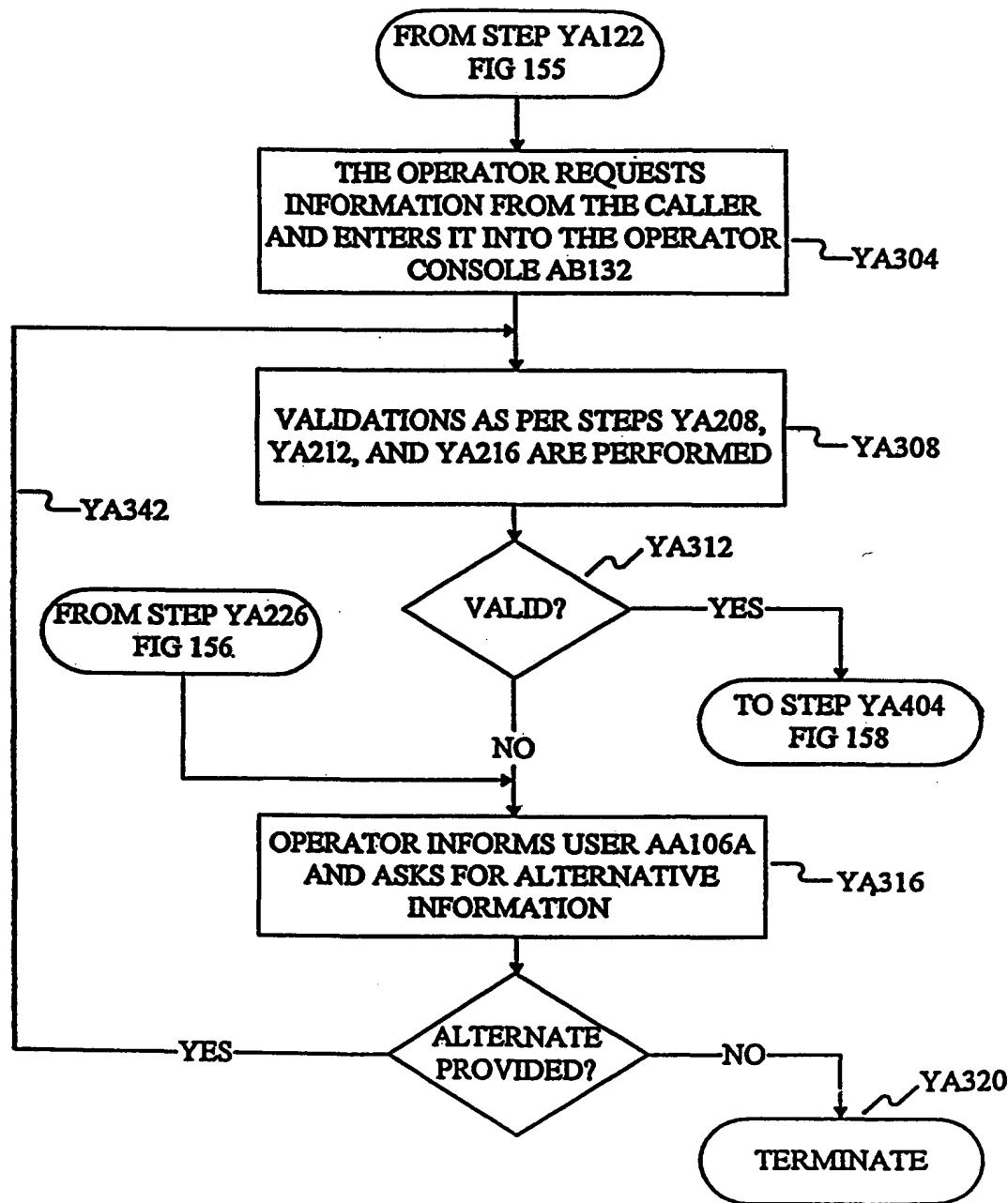


FIG 157

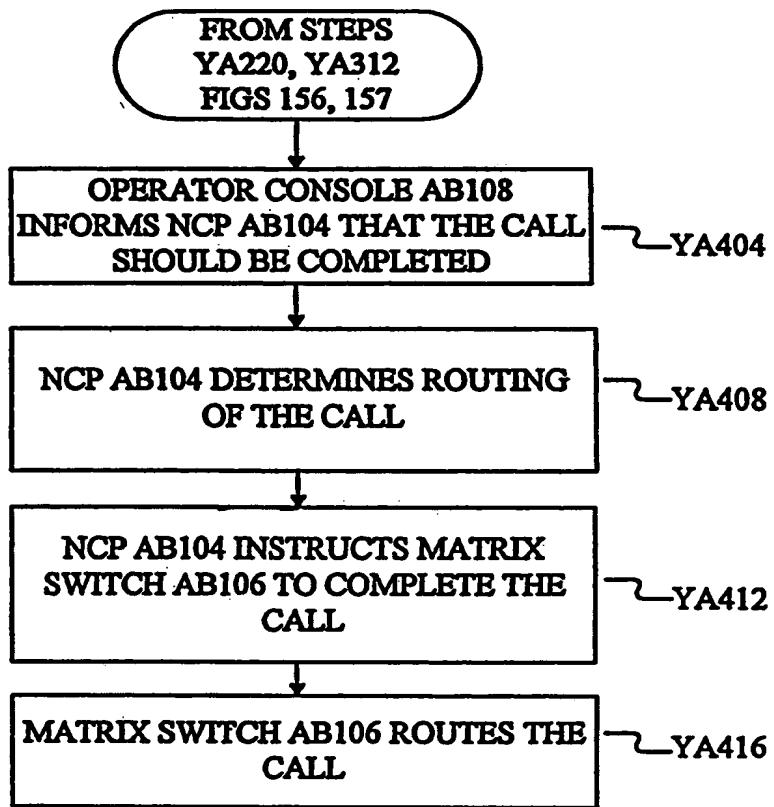


FIG 158

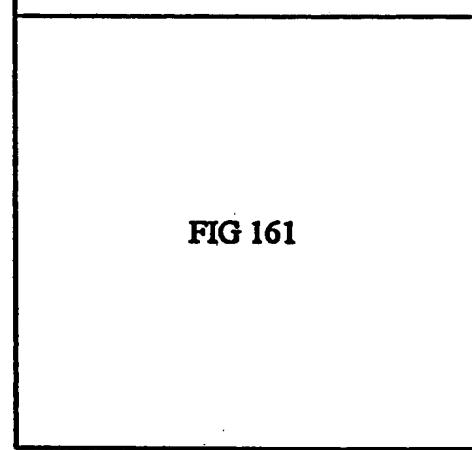
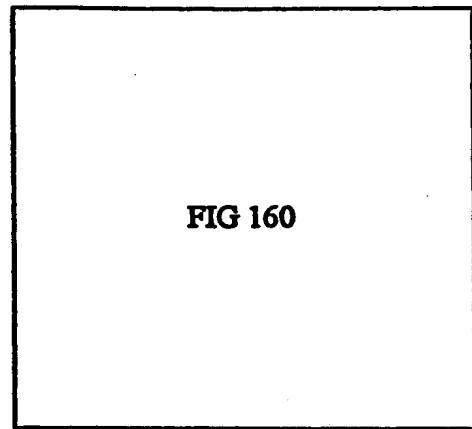


FIG 159

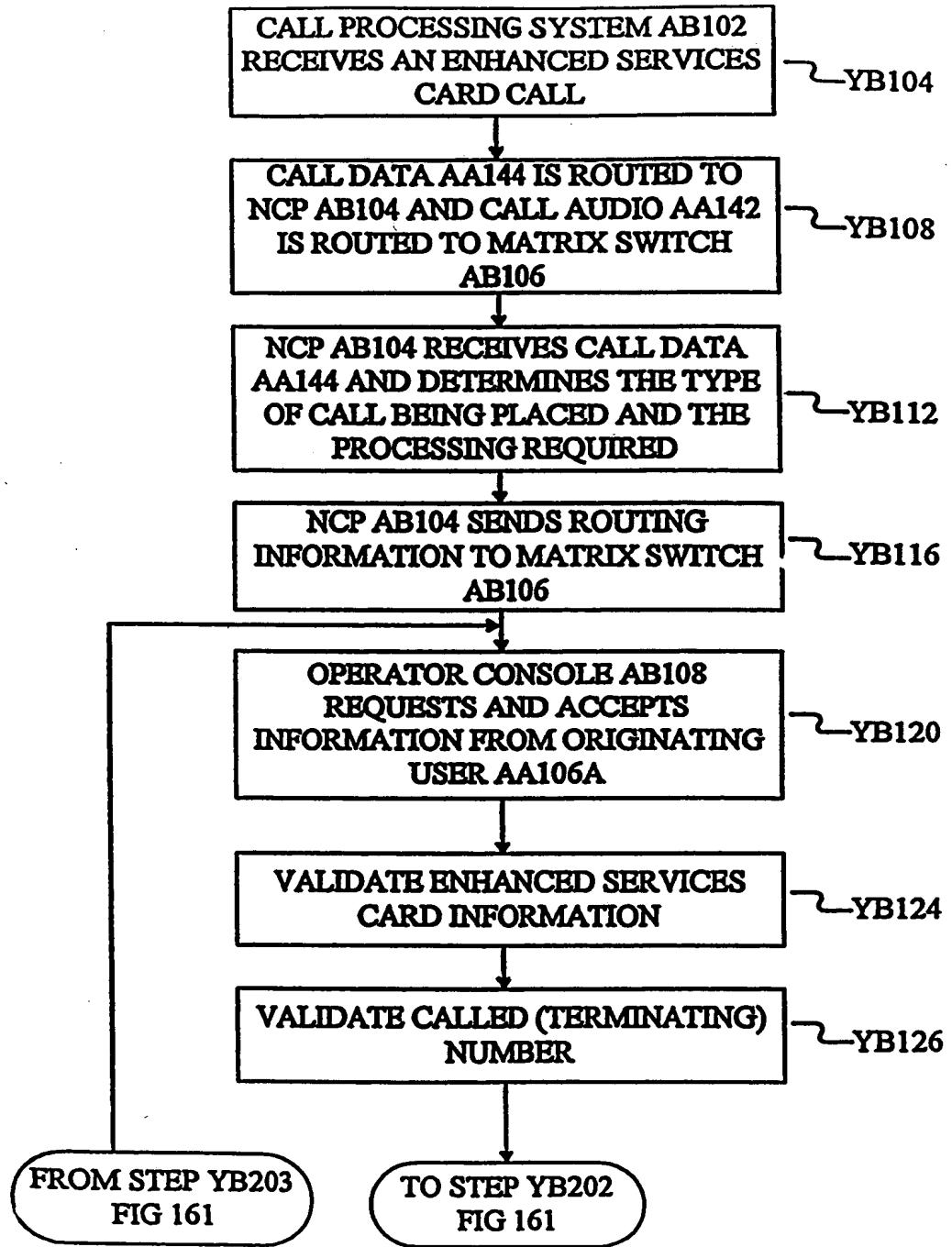


FIG 160

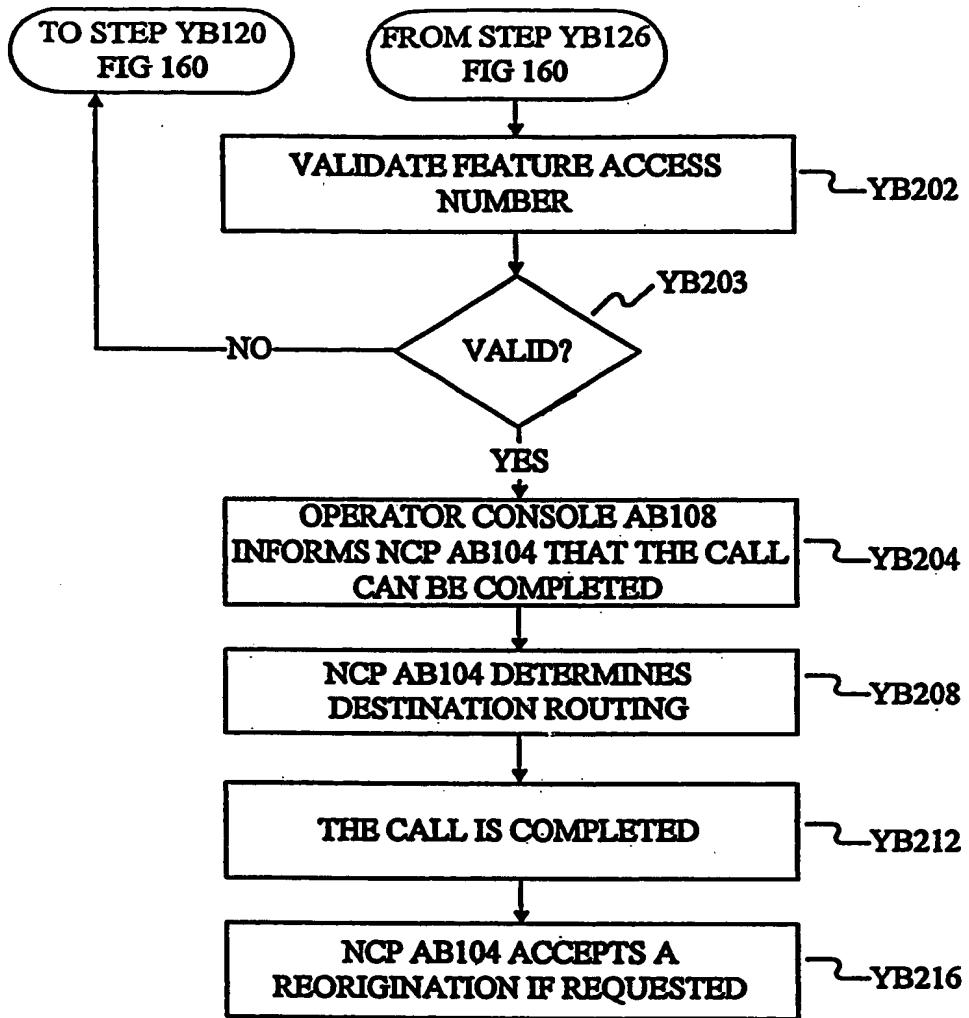


FIG 161

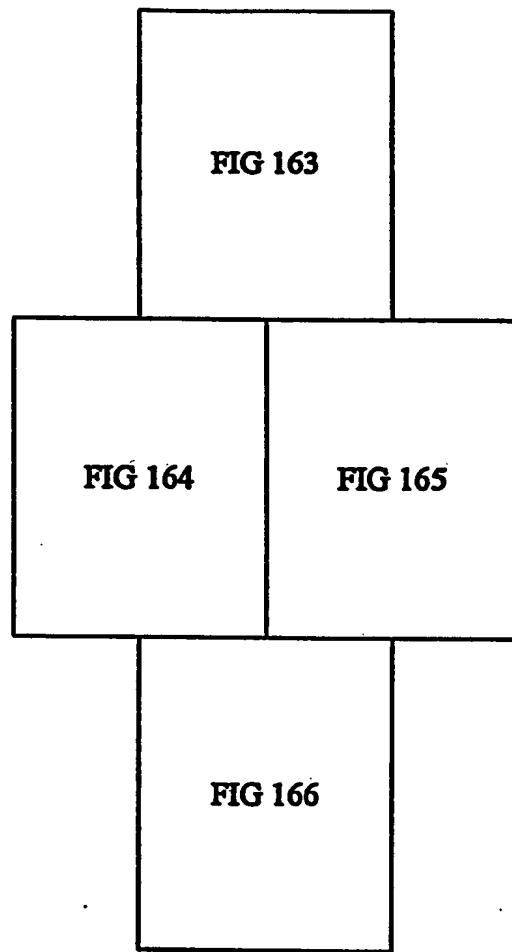


FIG 162

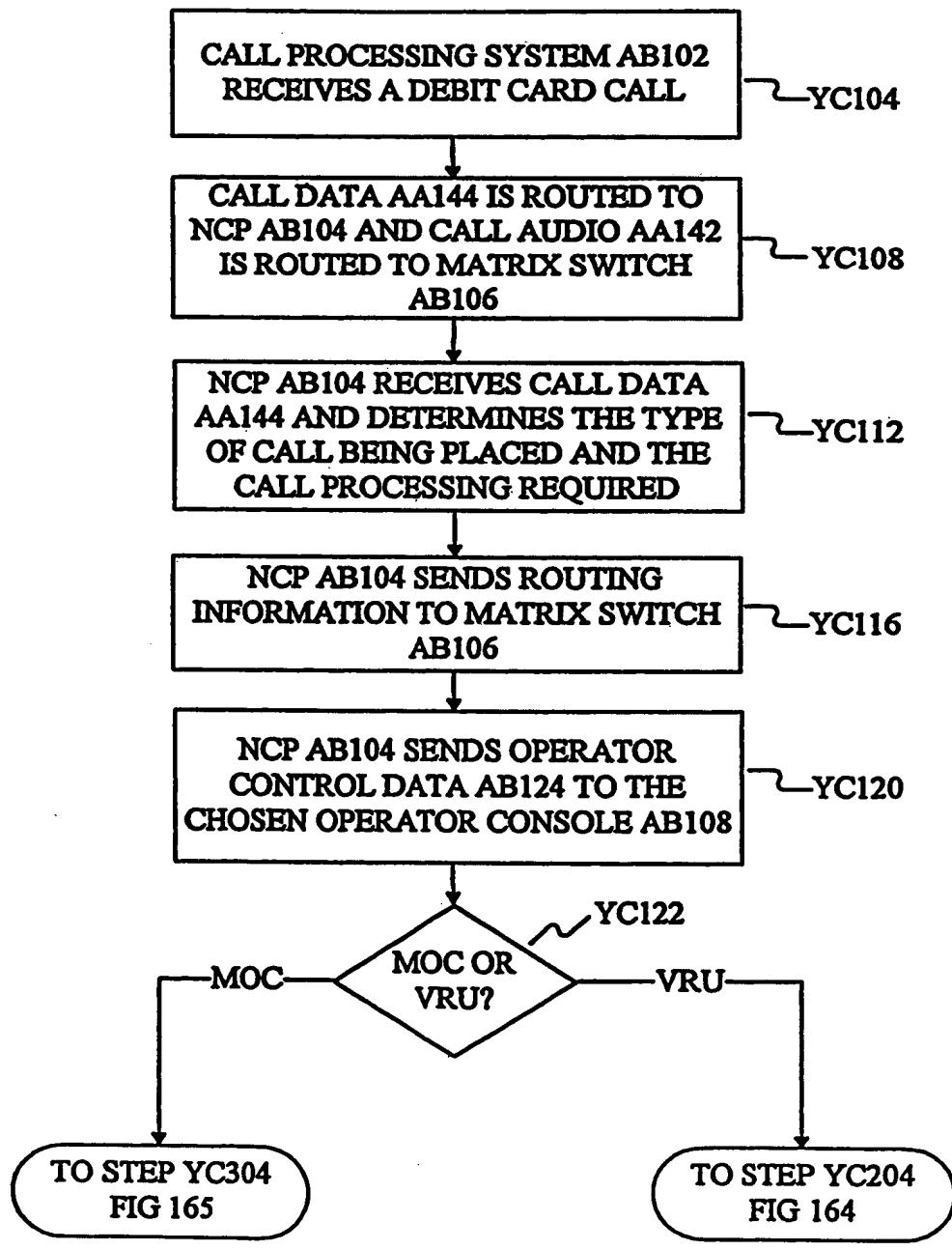


FIG 163

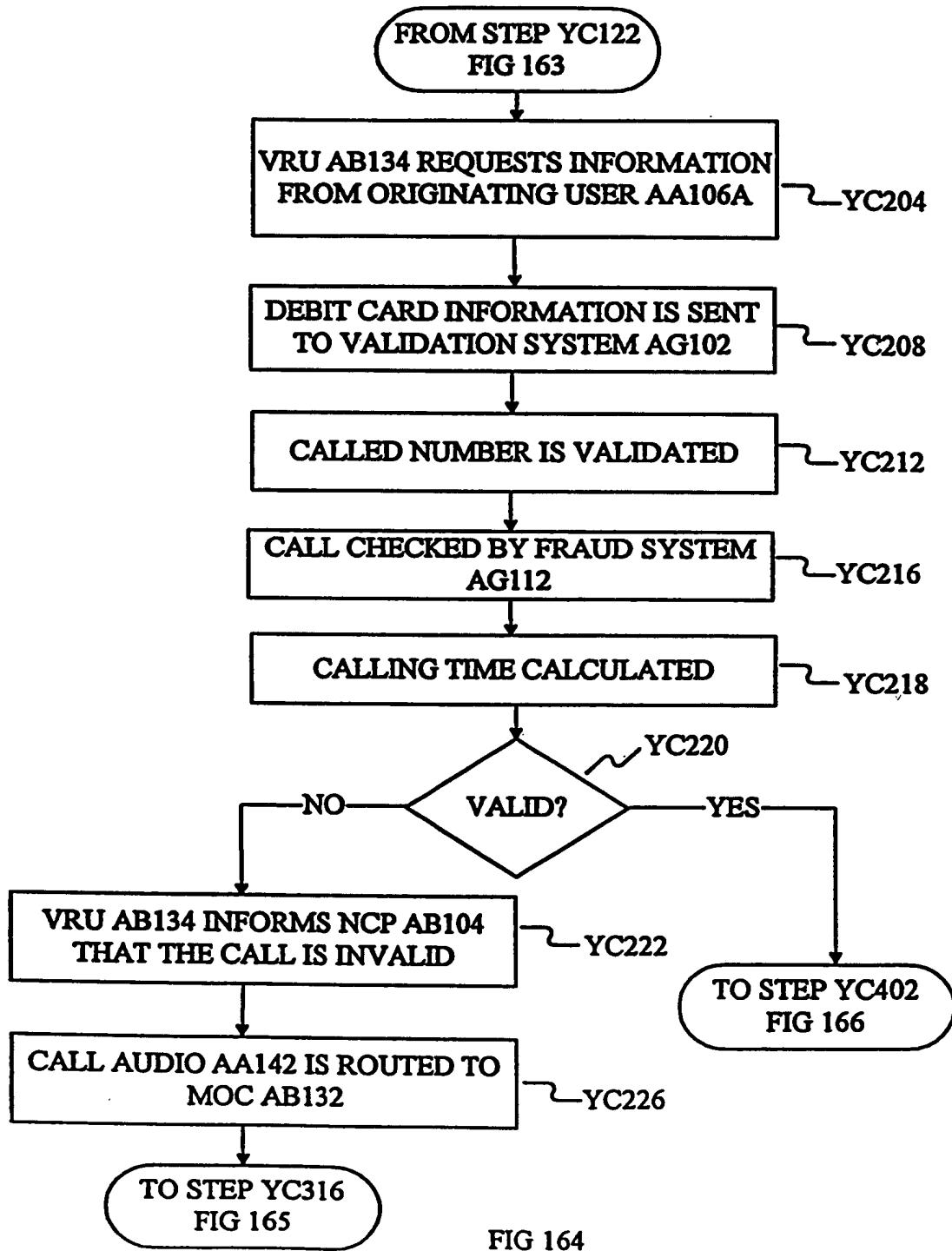


FIG 164

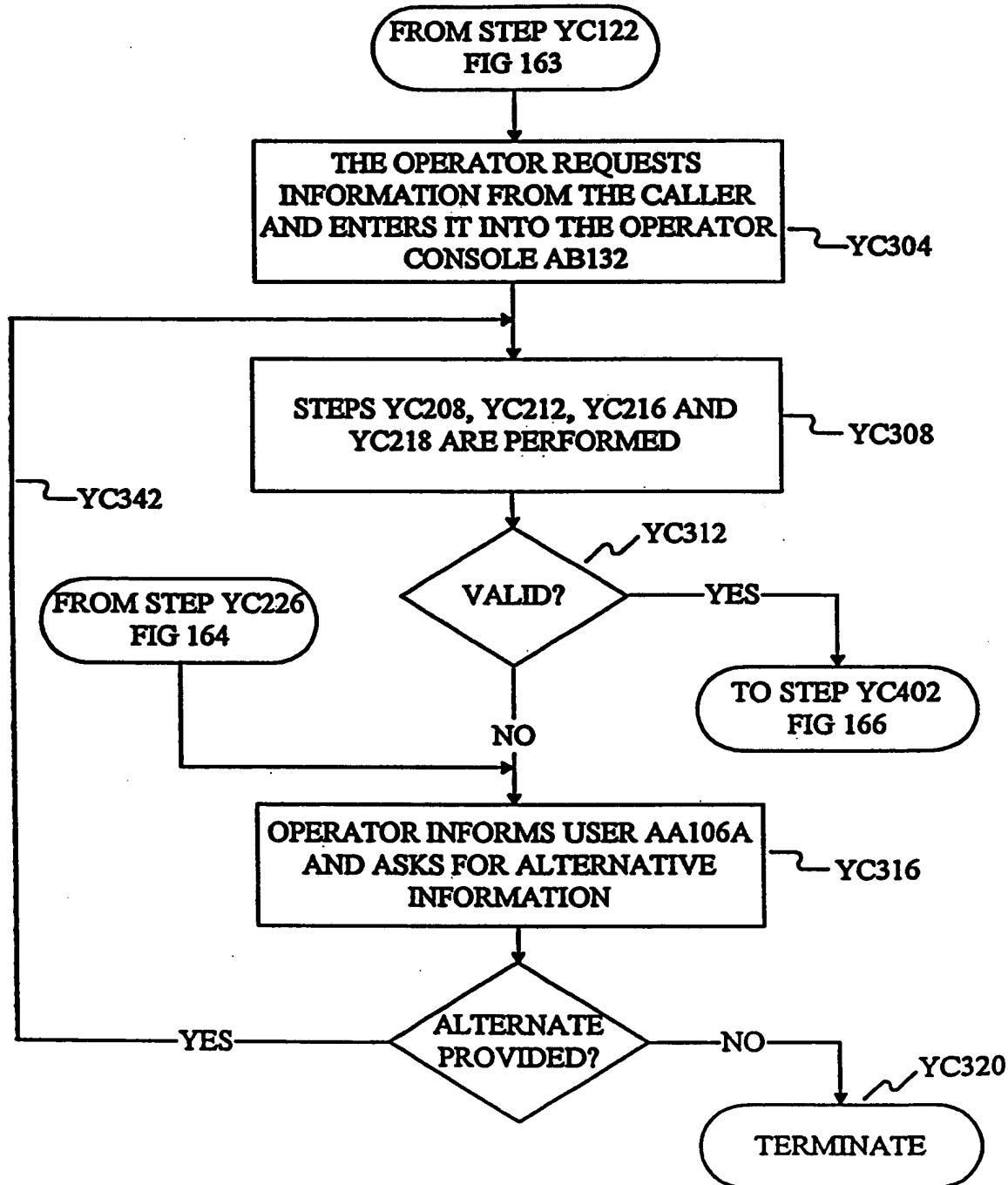


FIG 165

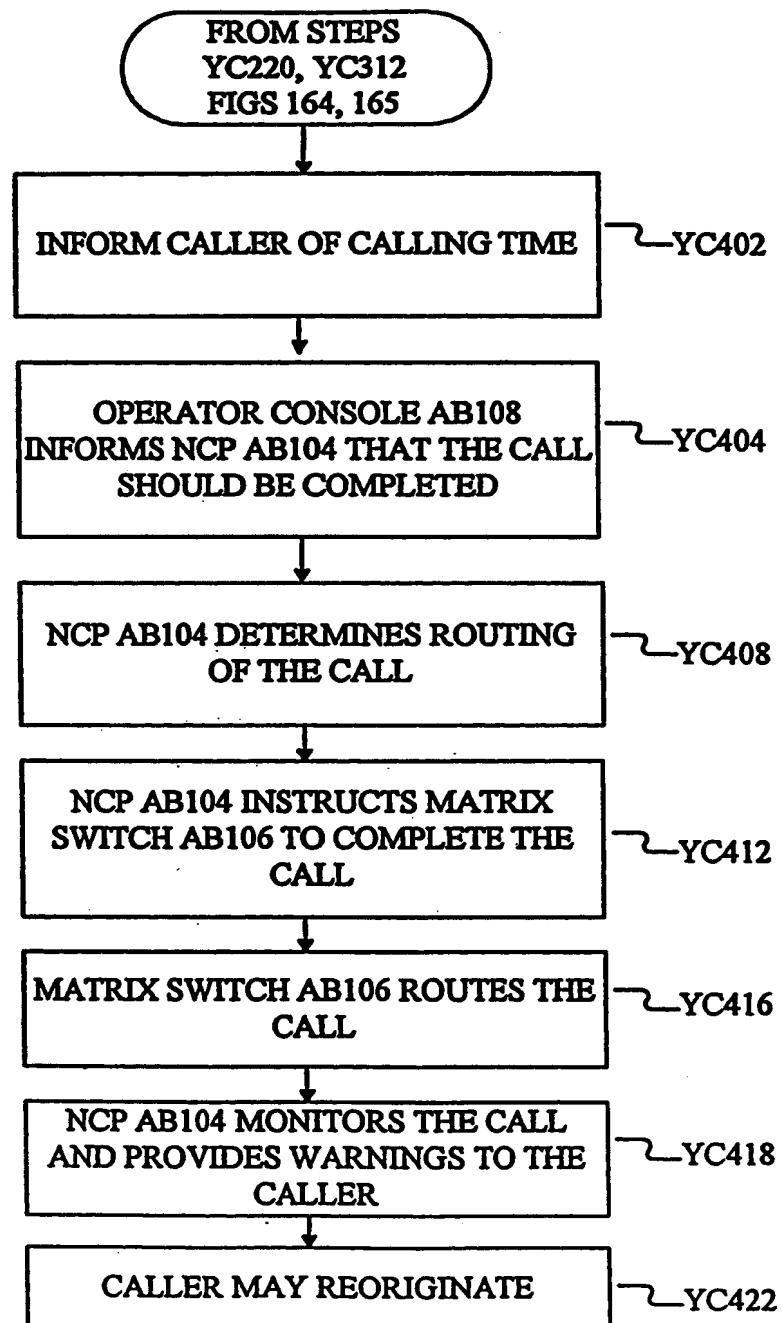


FIG 166

FIG 168

FIG 169

FIG 170

FIG 171

FIG 167

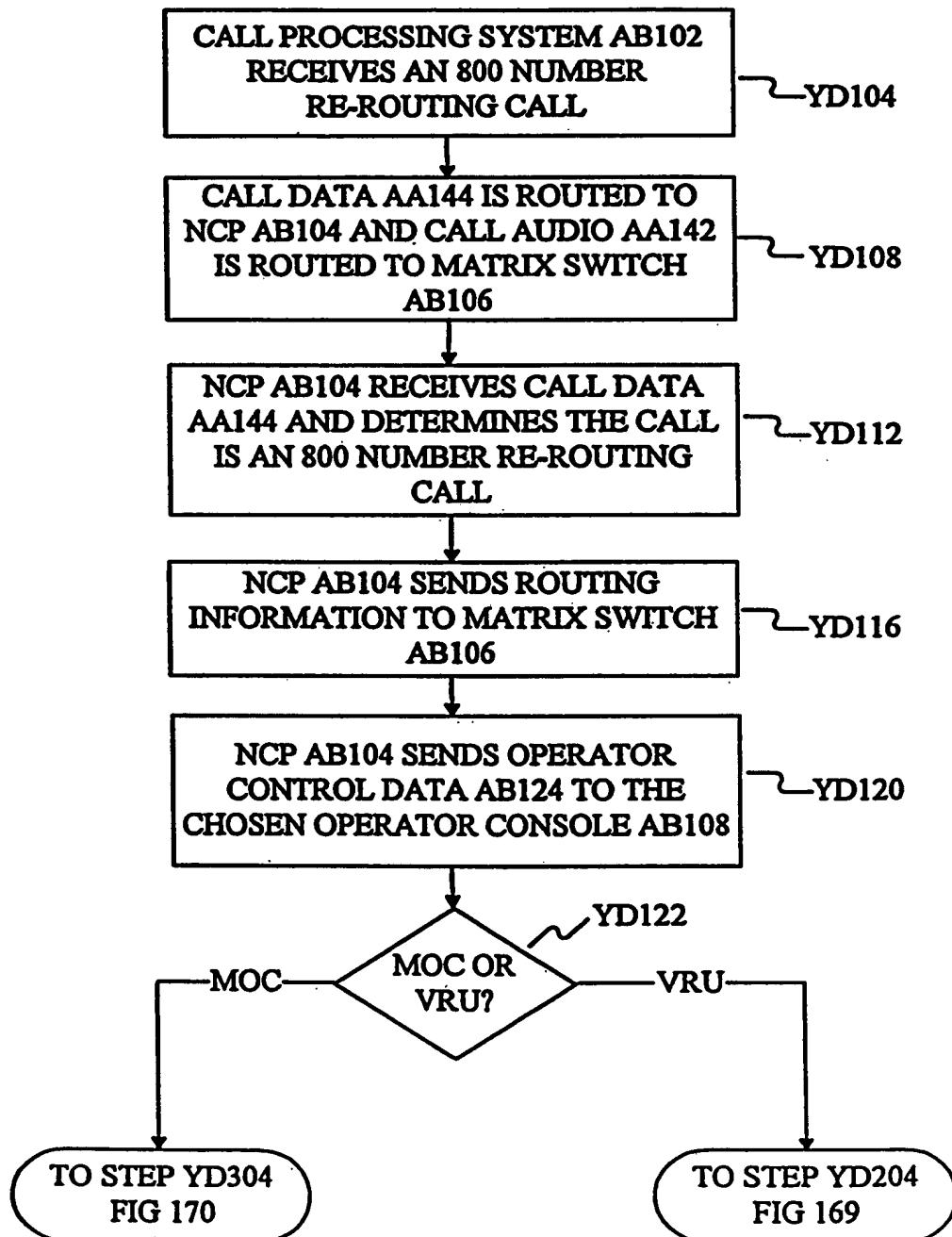
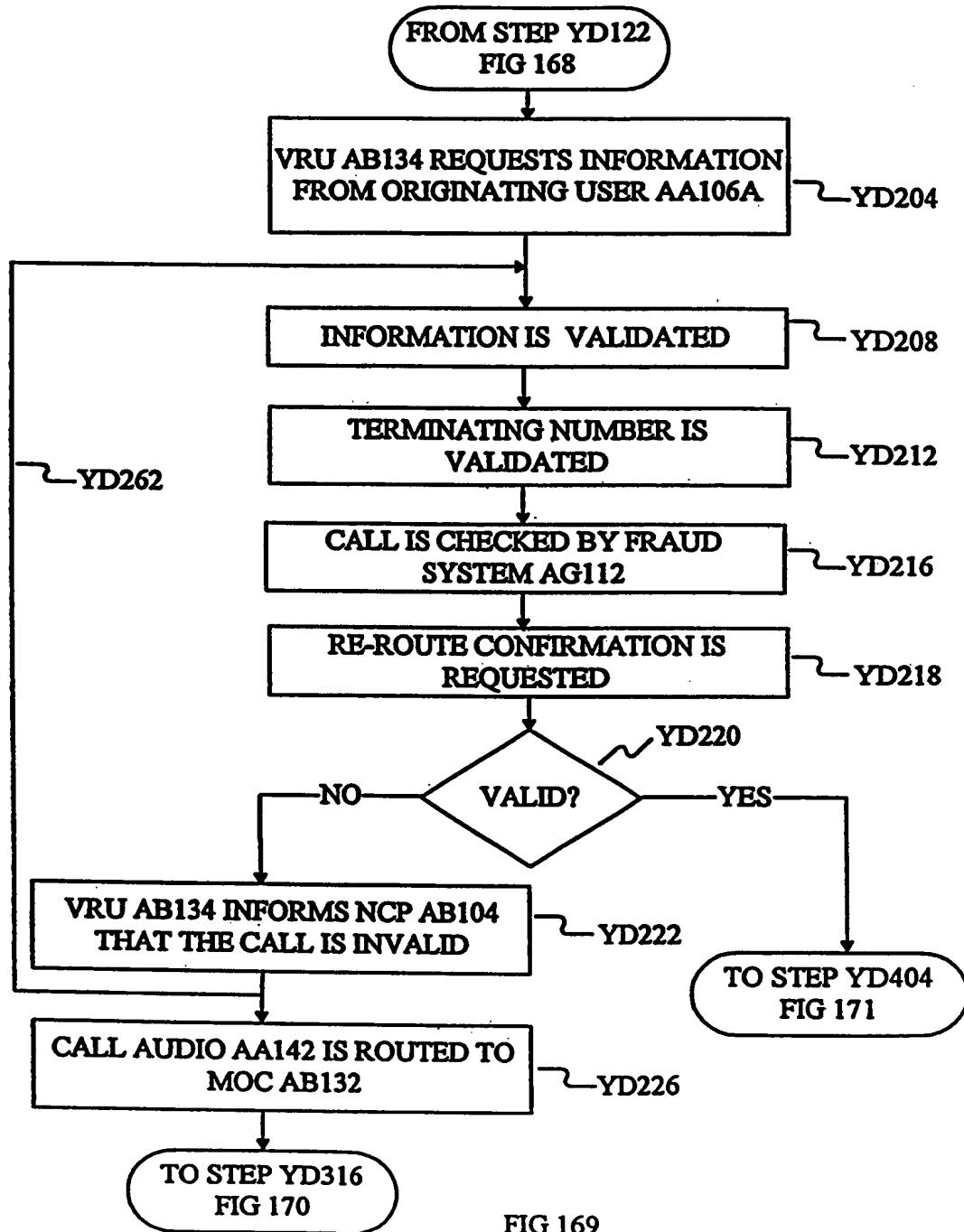


FIG 168



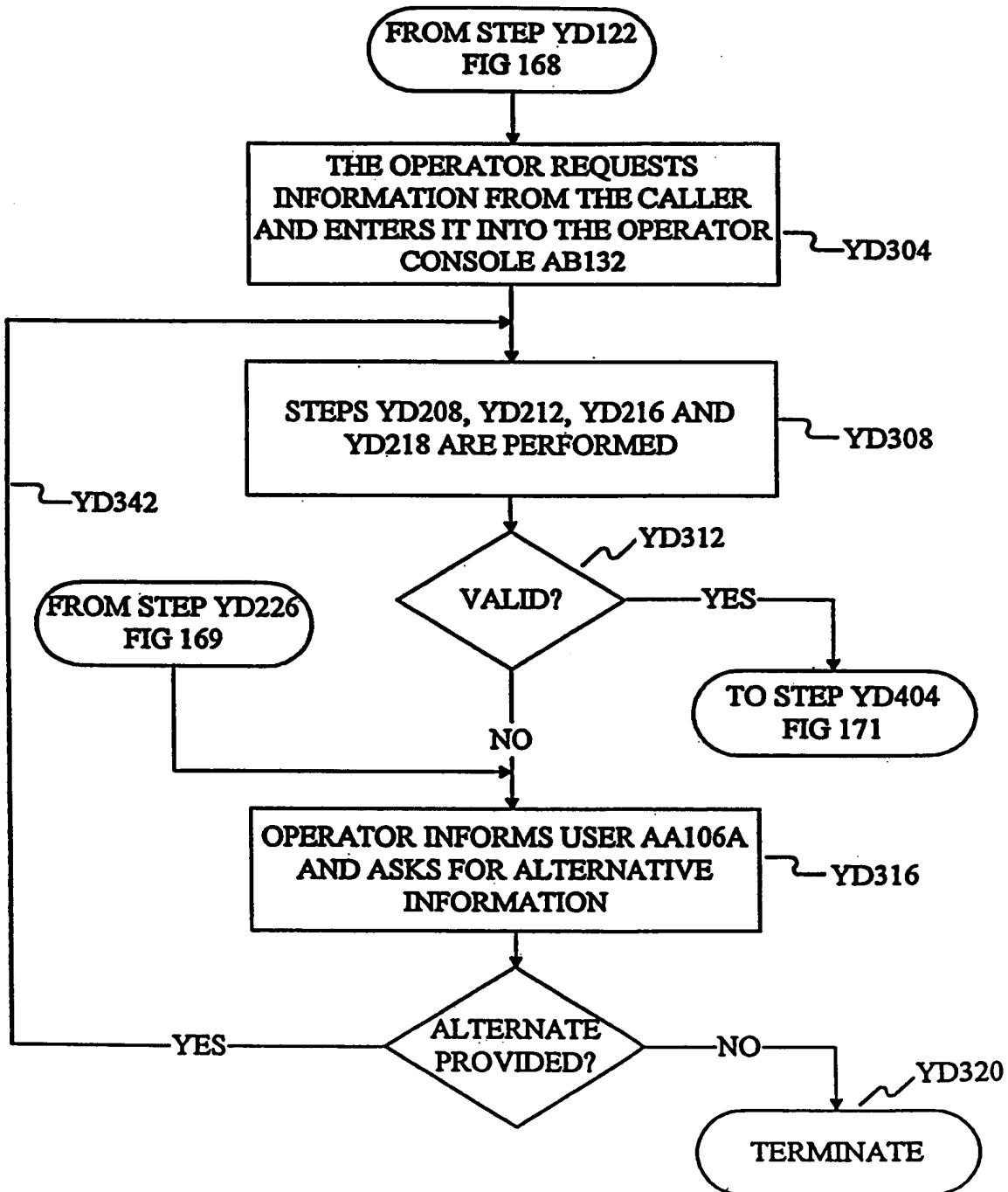


FIG 170

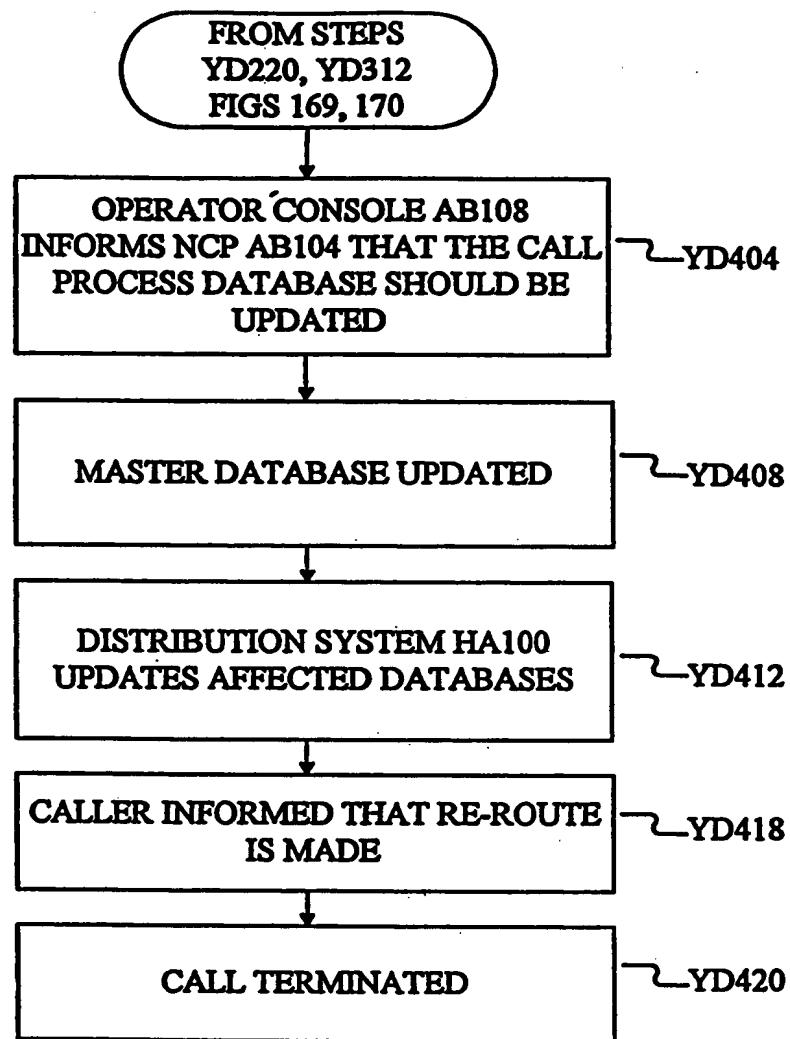


FIG 171

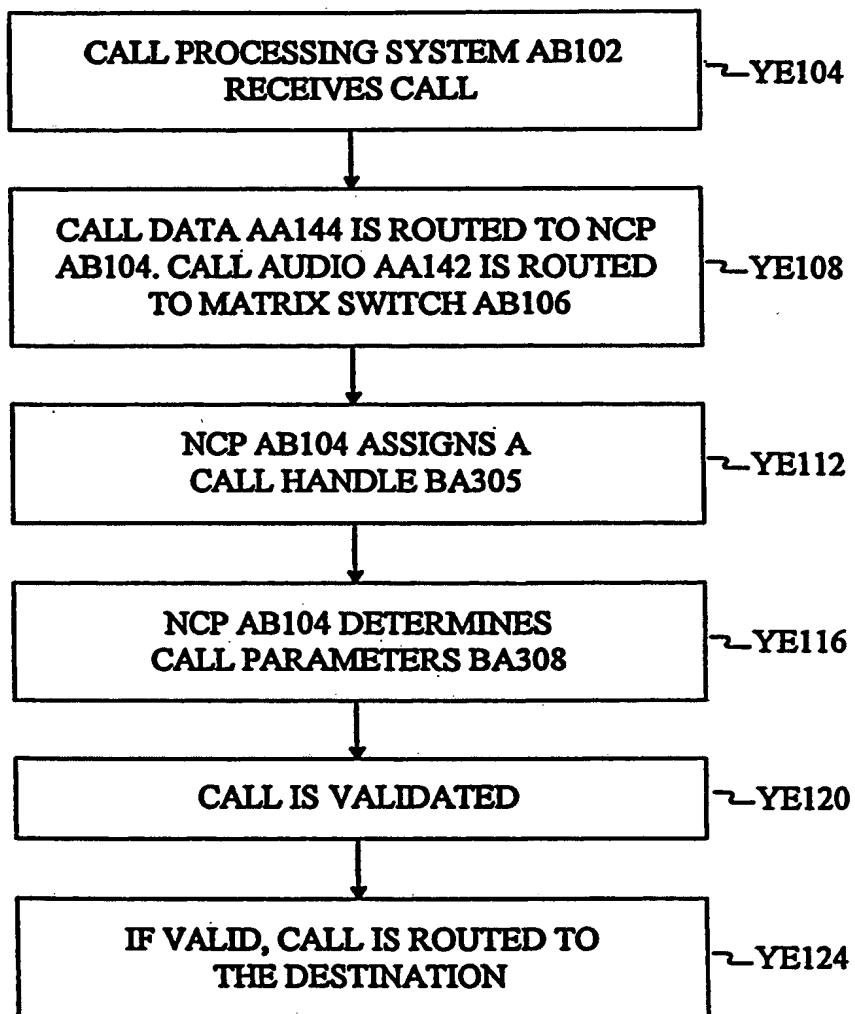


FIG 172

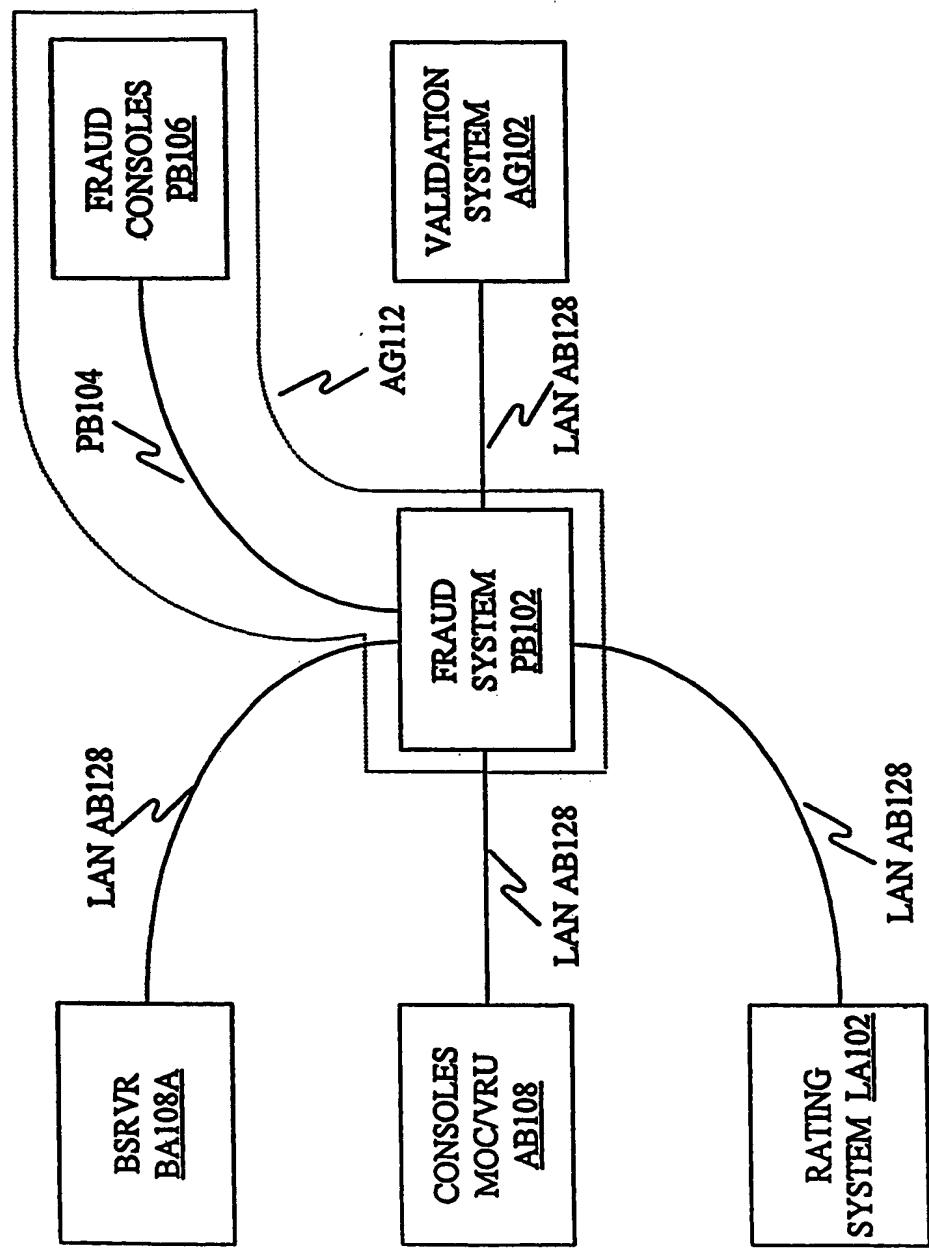


FIG 173

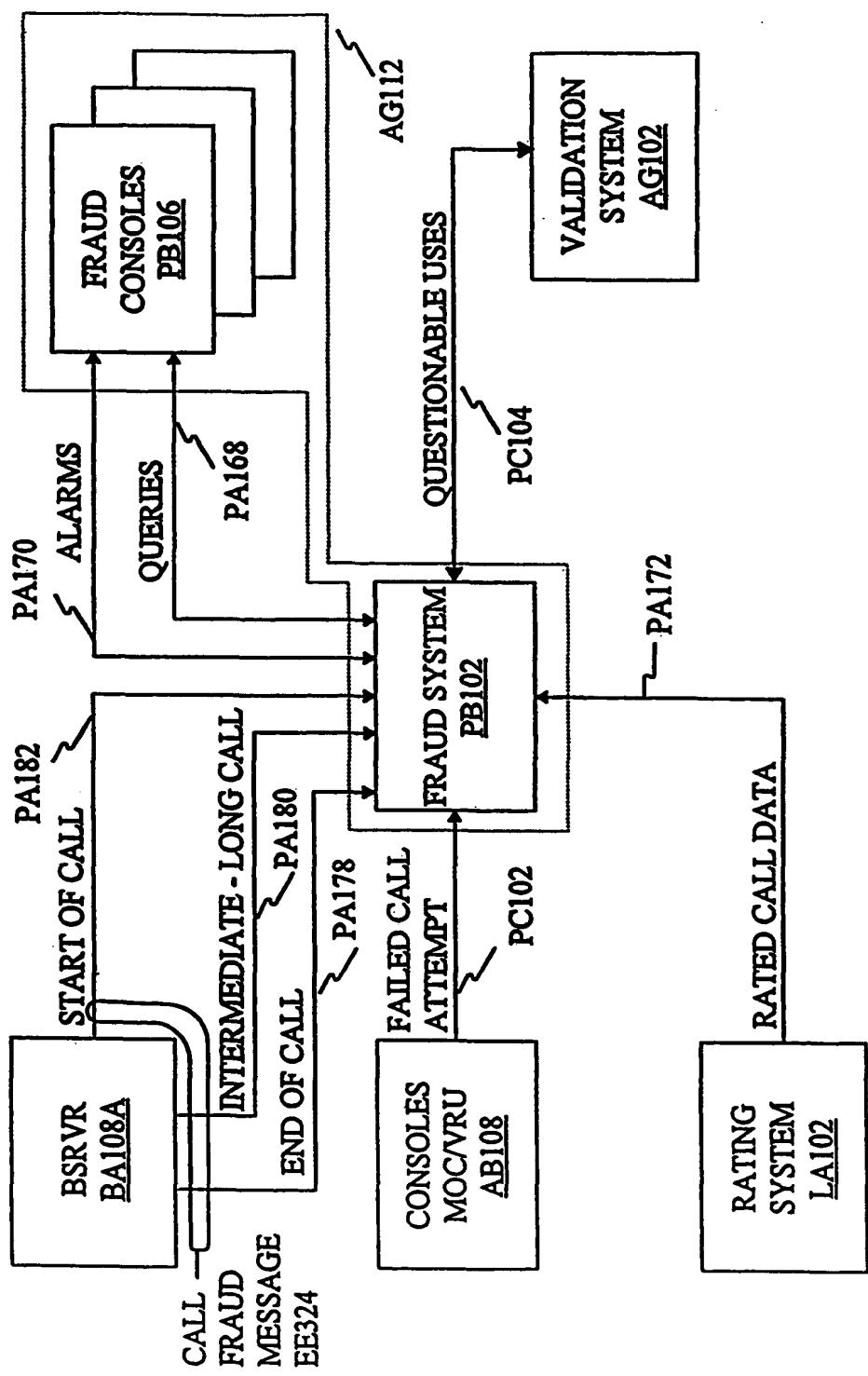


FIG 174

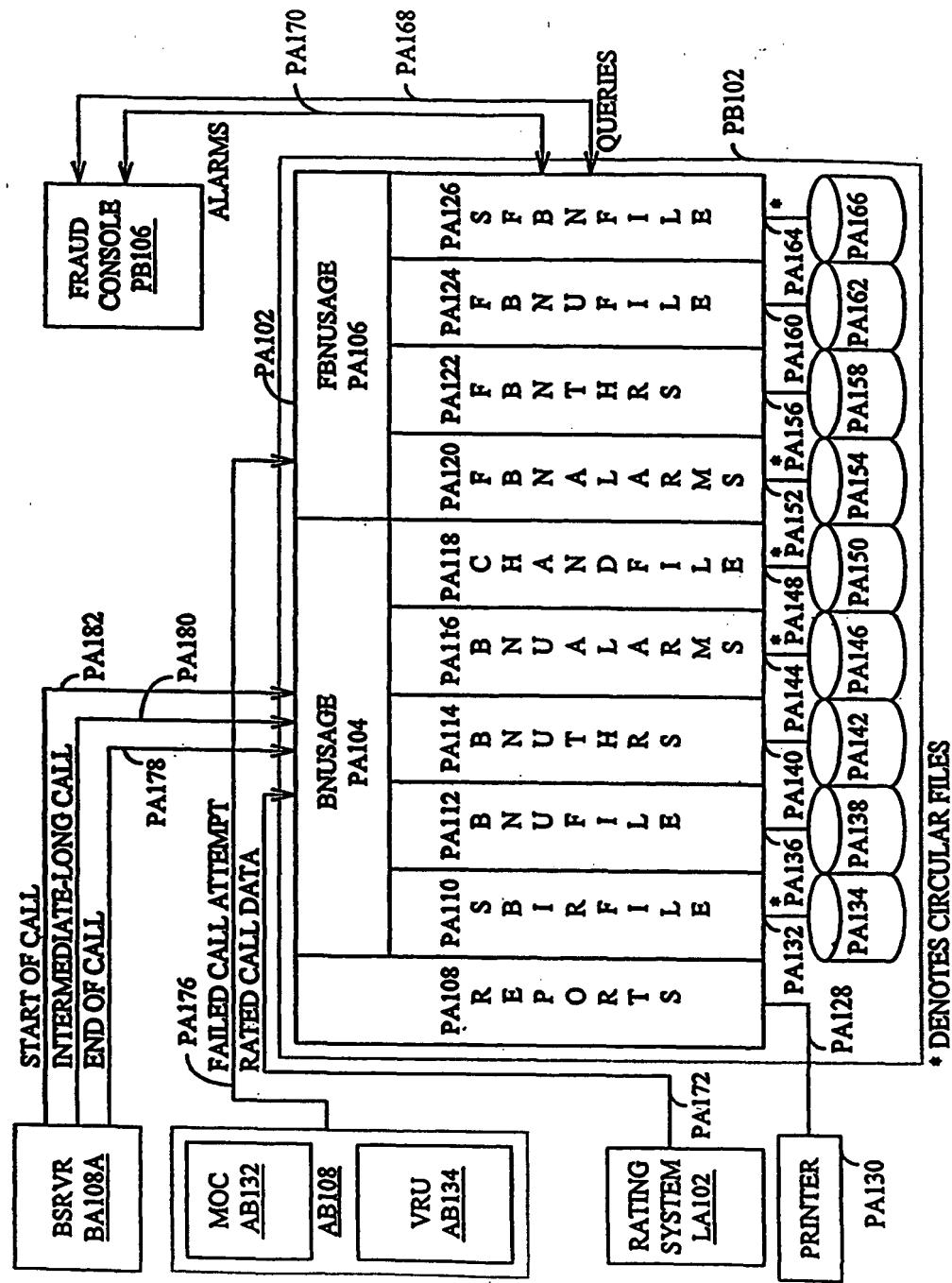


FIG 175

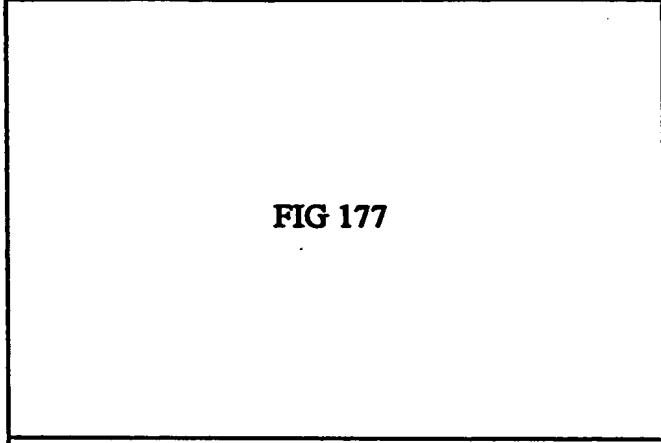


FIG 177

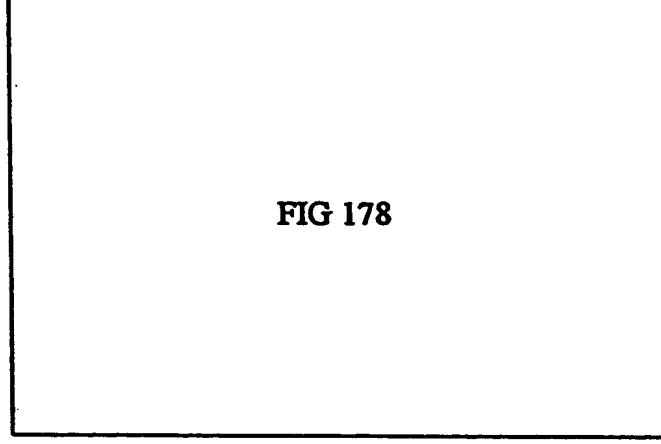


FIG 178

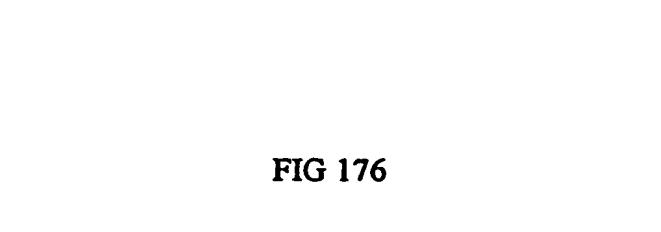


FIG 176

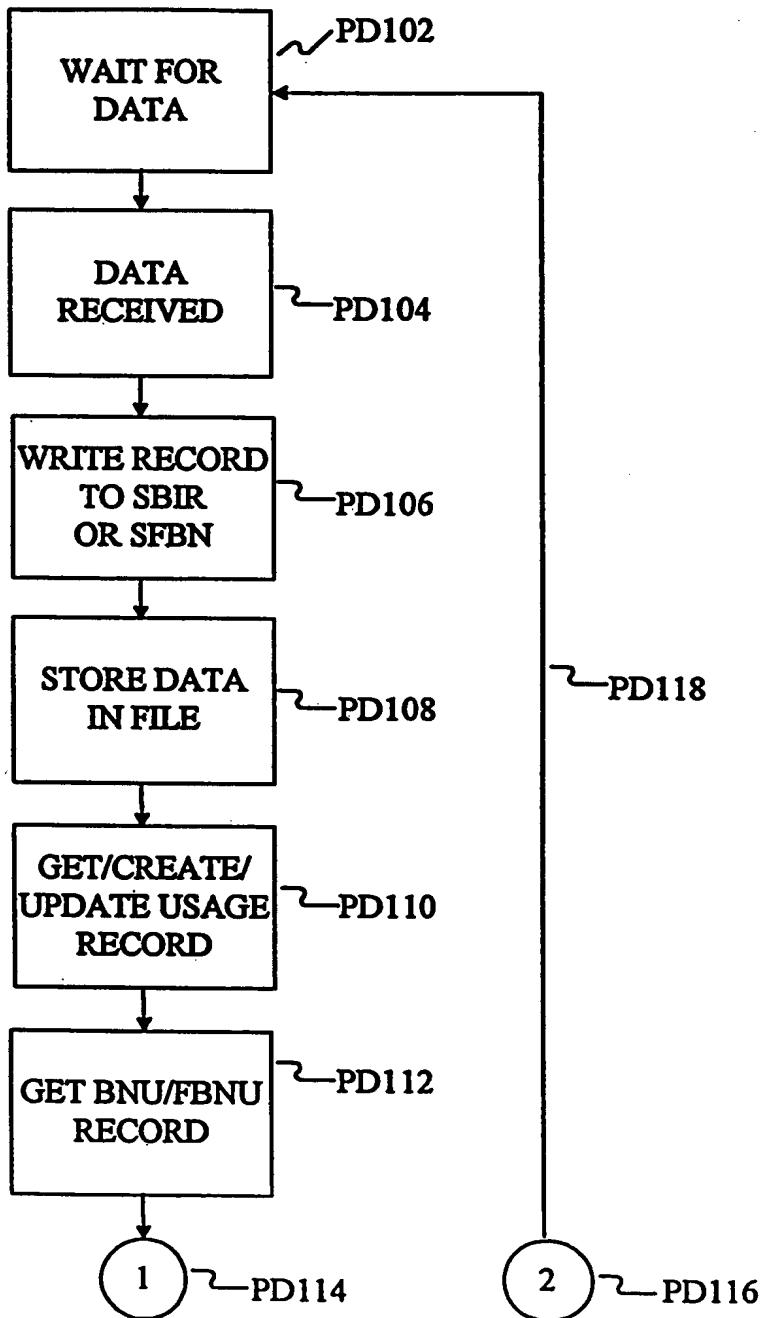


FIG 177

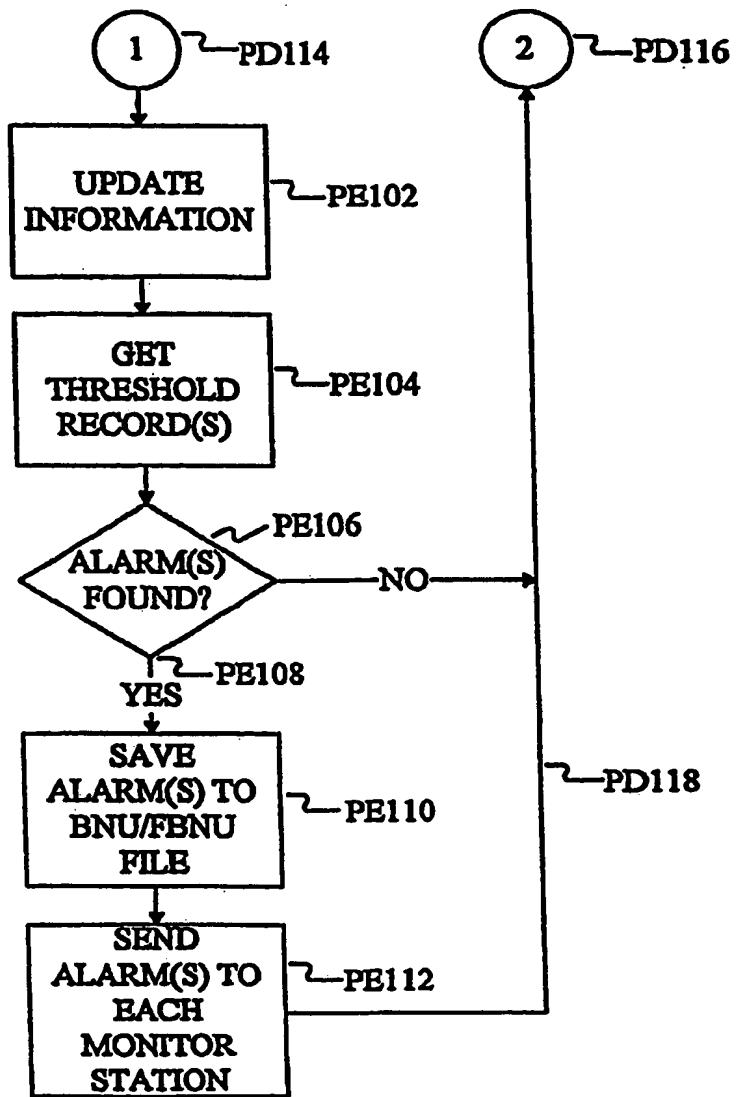


FIG 178

FBNU RECORD

ANI/CALLED NUMBER ↗ PO442

TYPE ↗ PO444

HOT FLAG ↗ PO446

↗ PO440

**LAST 'N' ATTEMPTS,
(TIME, CALL
INFORMATION)** ↗ PO402

BNU RECORD

BILLING NUMBER ↗ PO456

BILLING METHOD ↗ PO458

CURRENT USES ↗ PO454

↗ PO450

**LAST 'N' ATTEMPTS,
(TIME, ANI, CALL
INFORMATION)** ↗ PO452

FIG 179

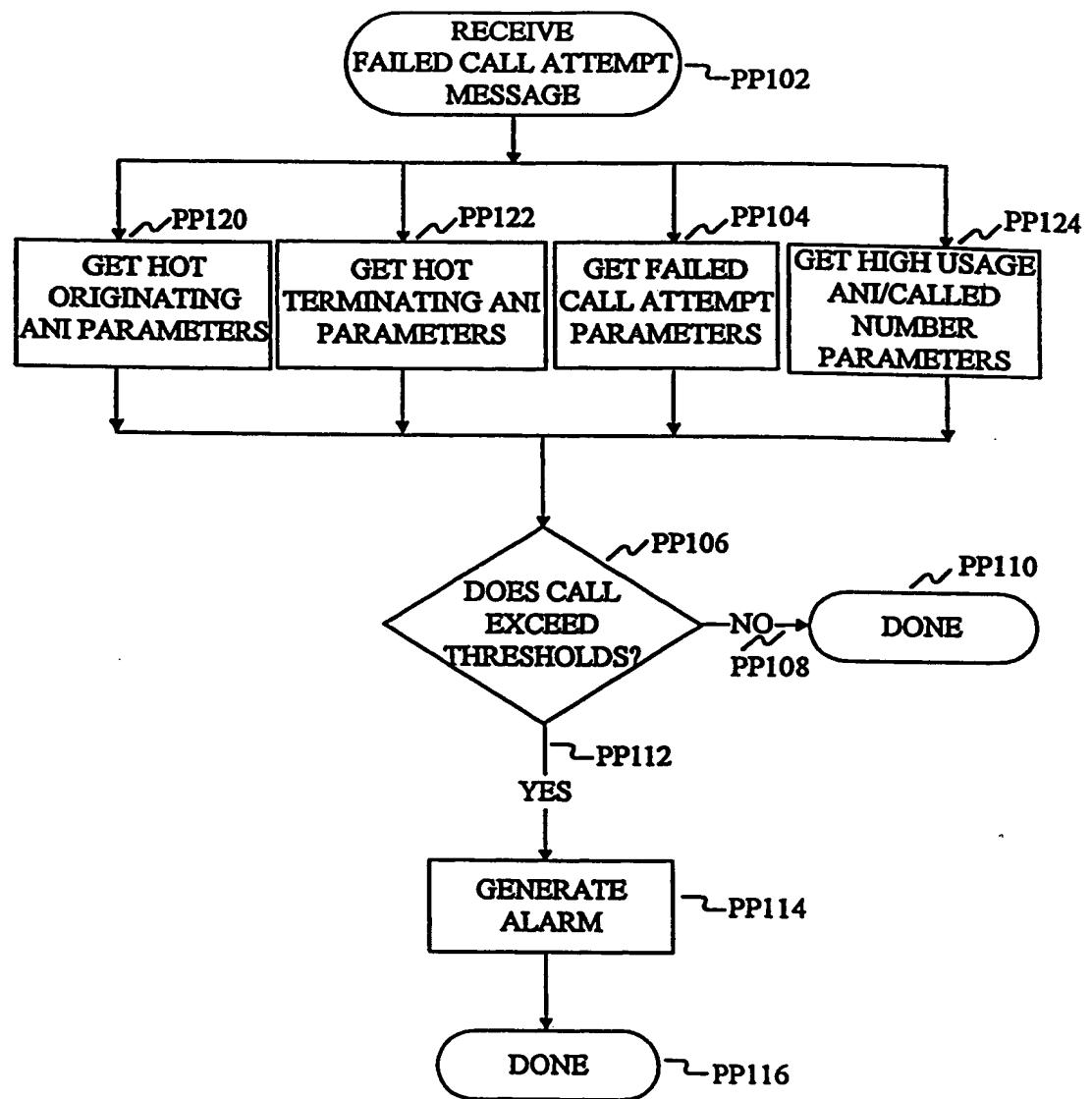


FIG 180

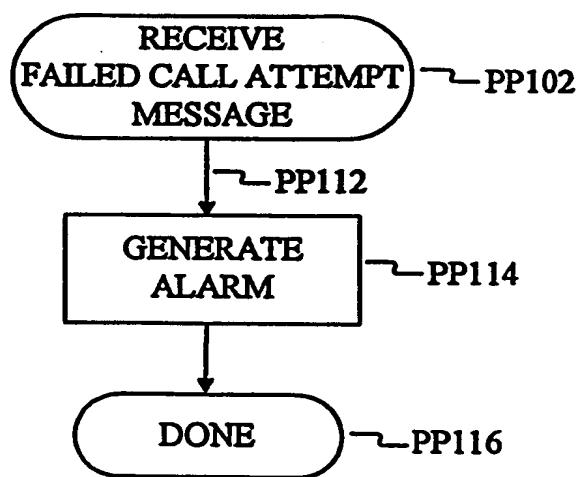


FIG 181

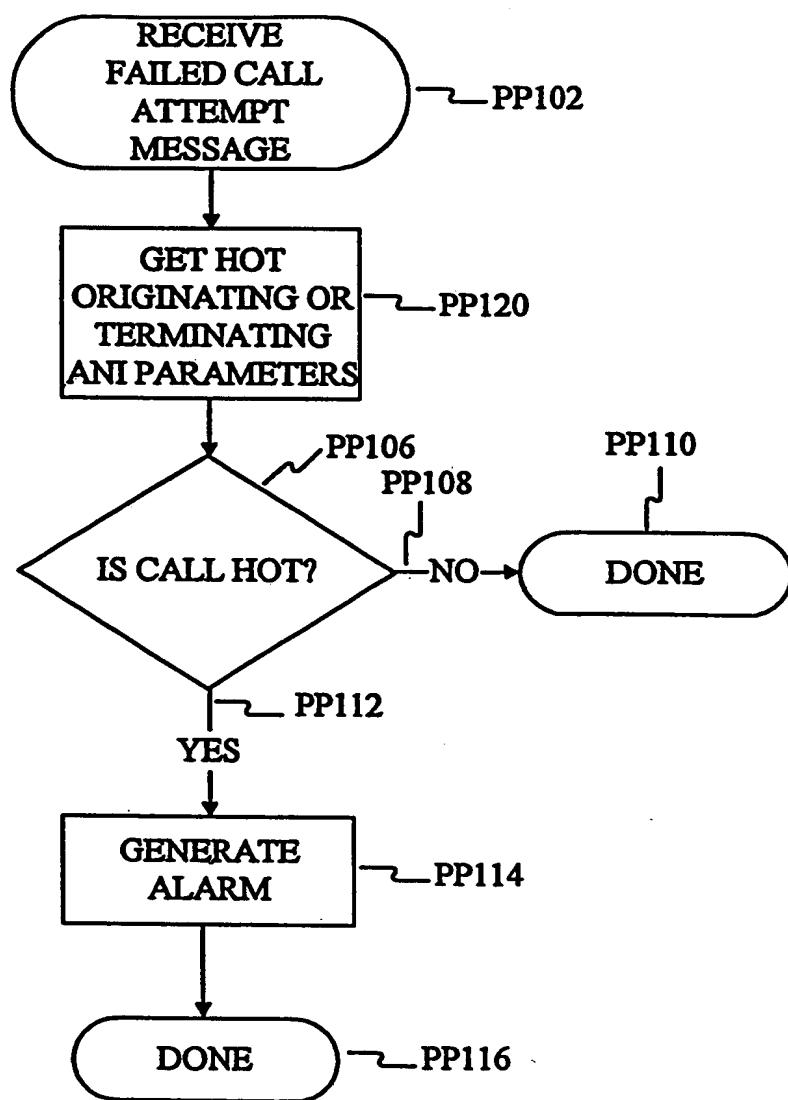


FIG 182

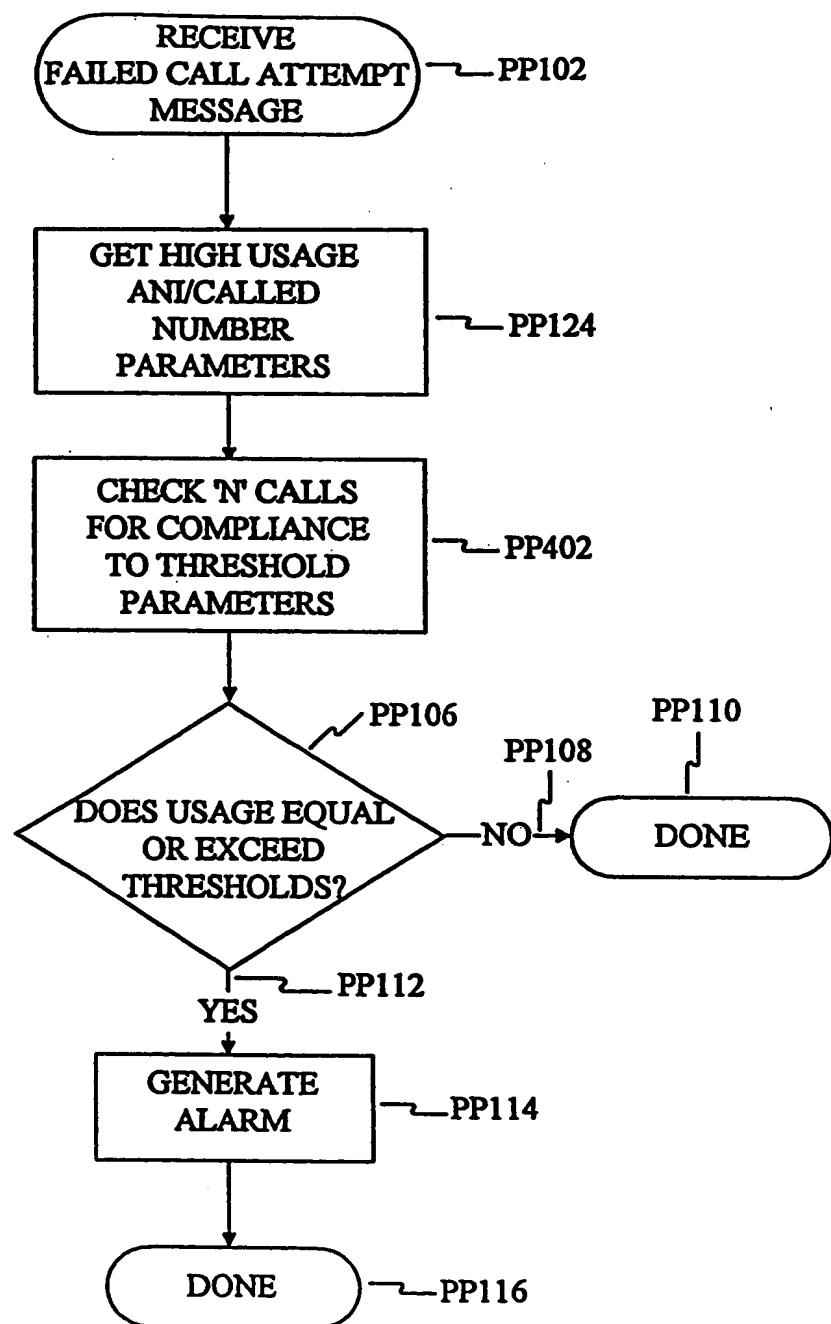


FIG 183

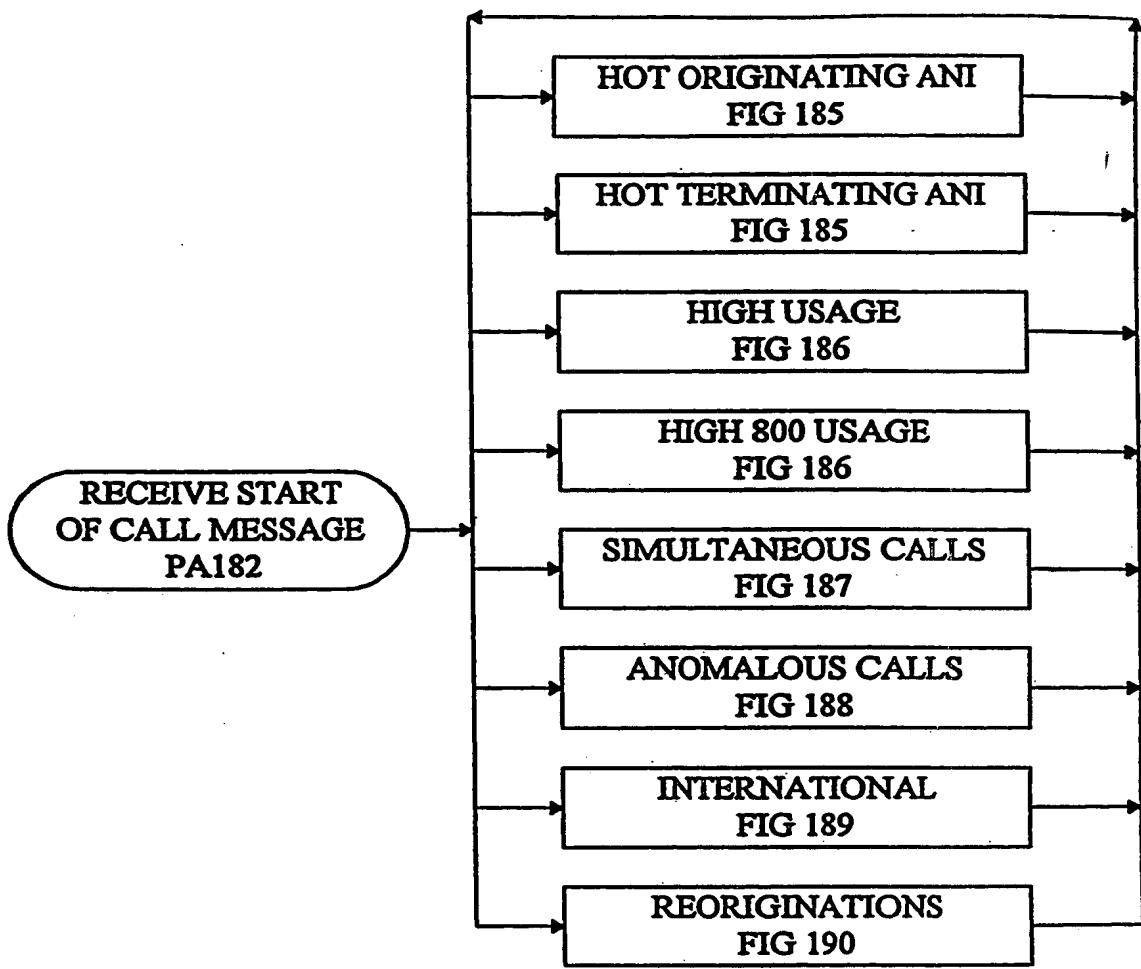


FIG 184

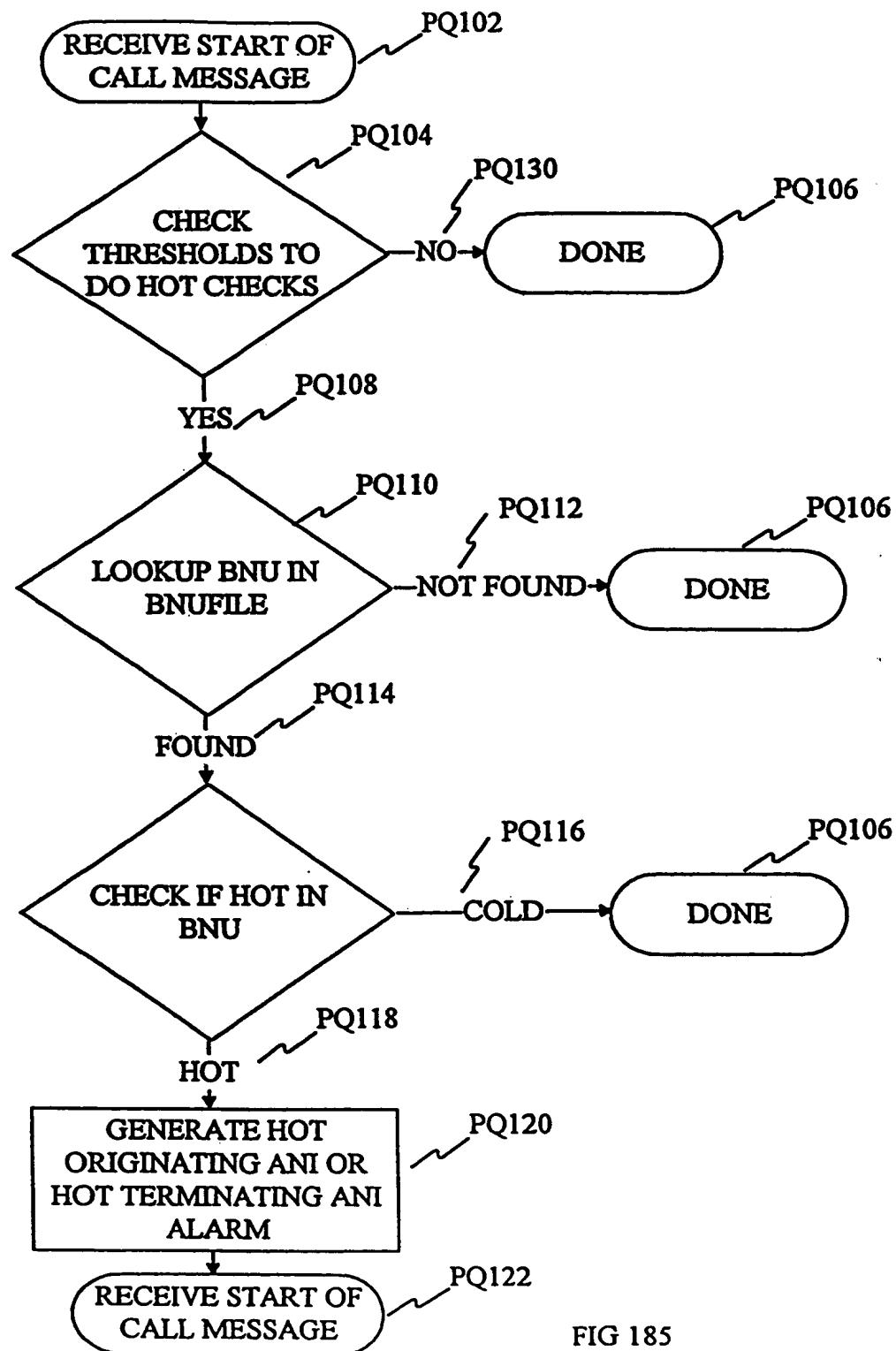


FIG 185

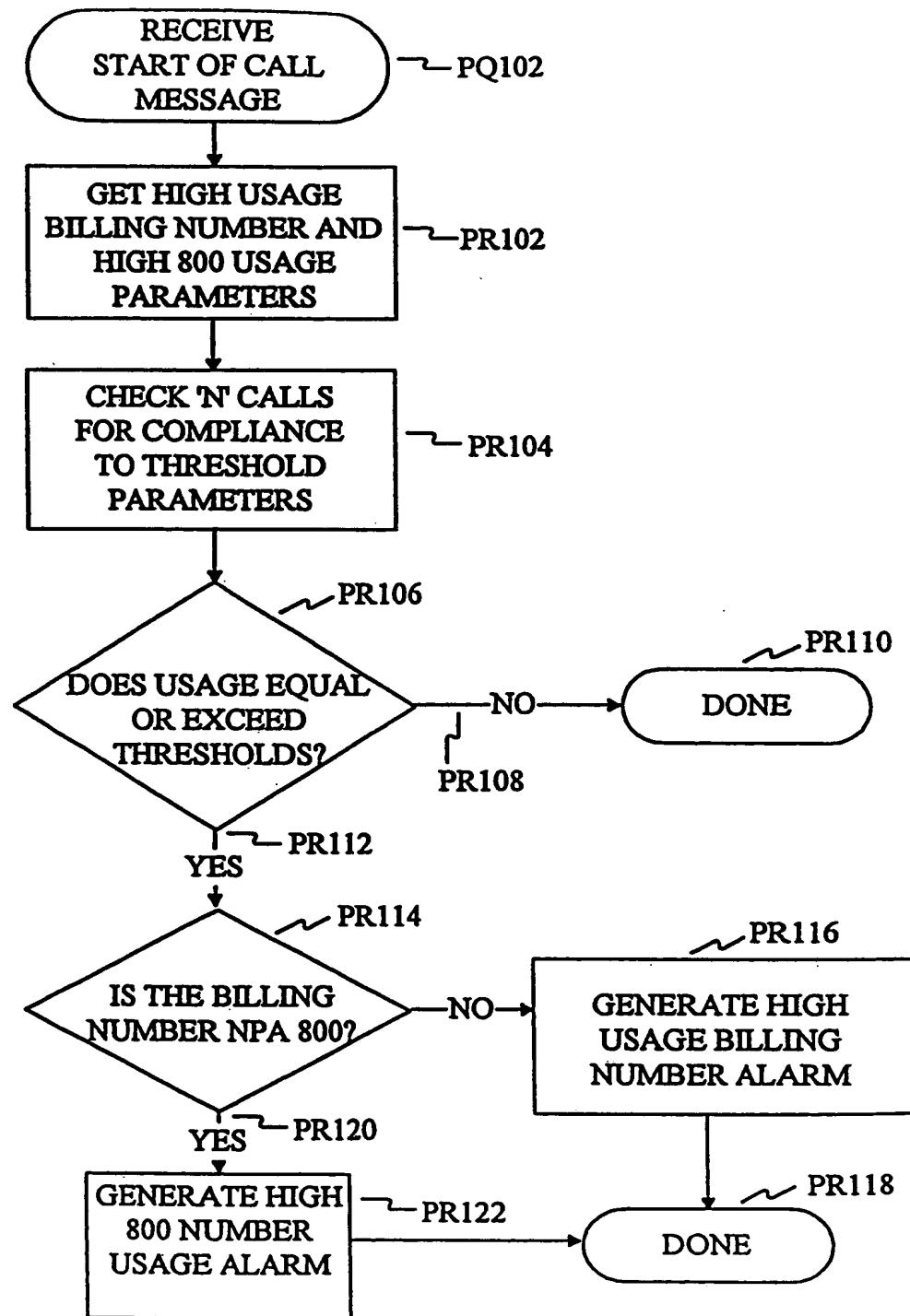


FIG 186

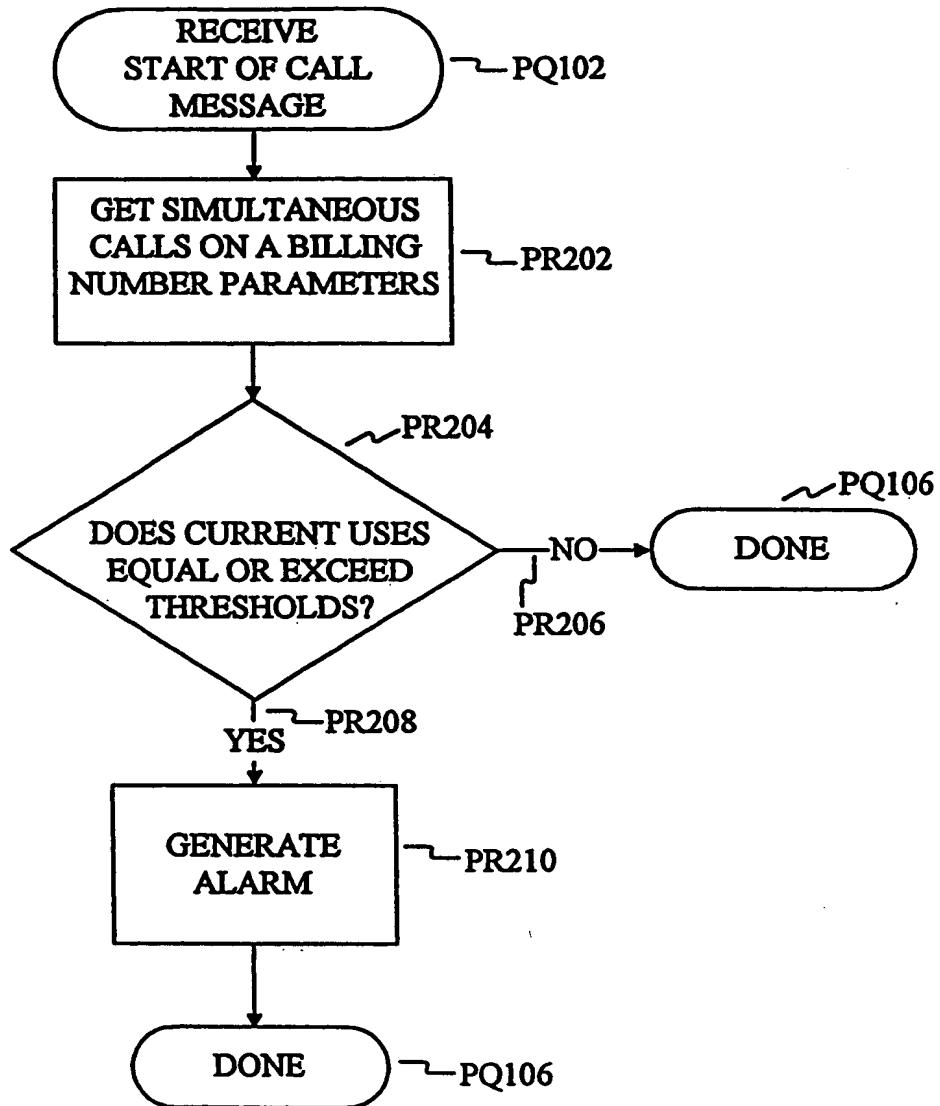


FIG 187

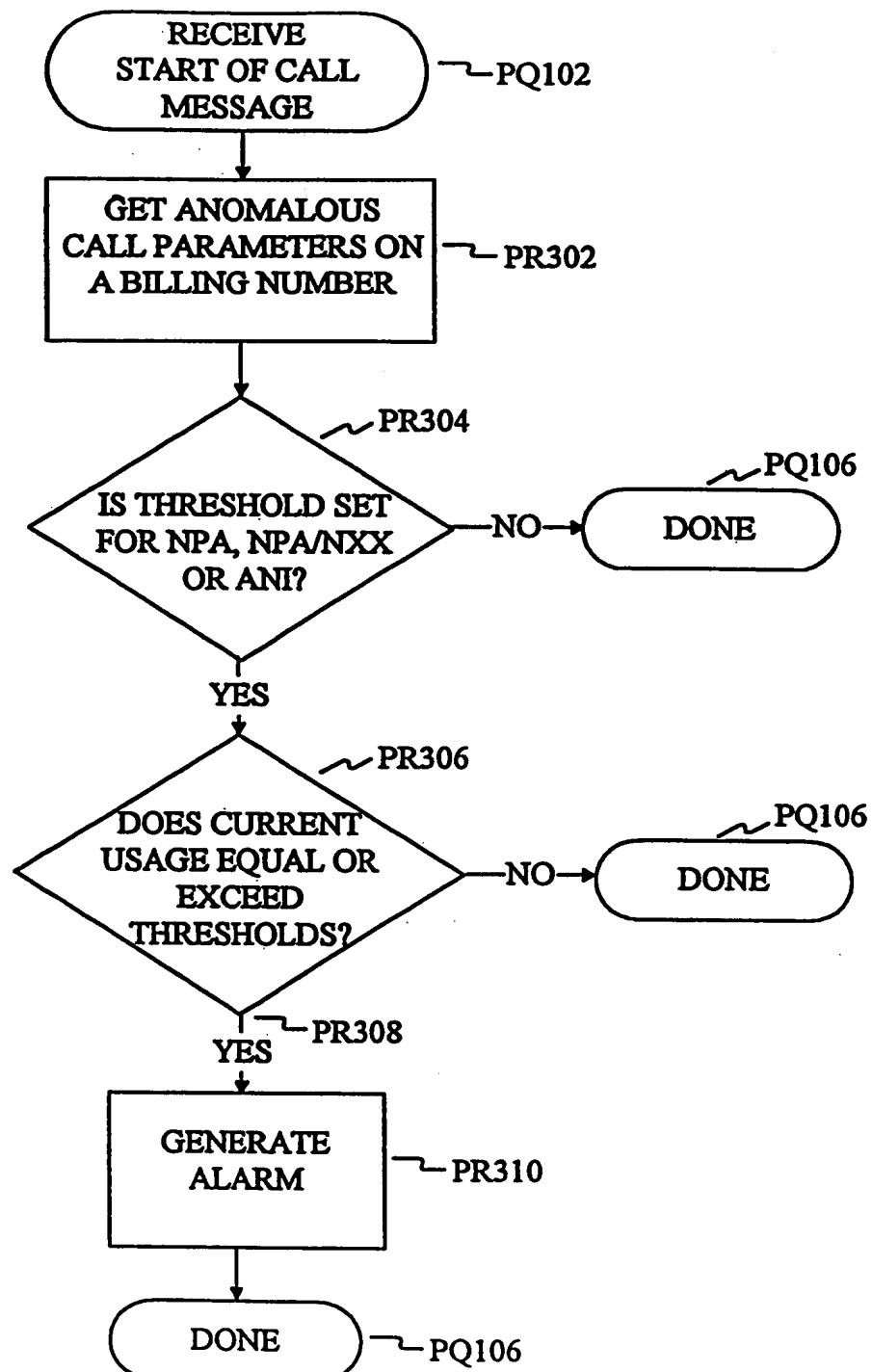


FIG 188

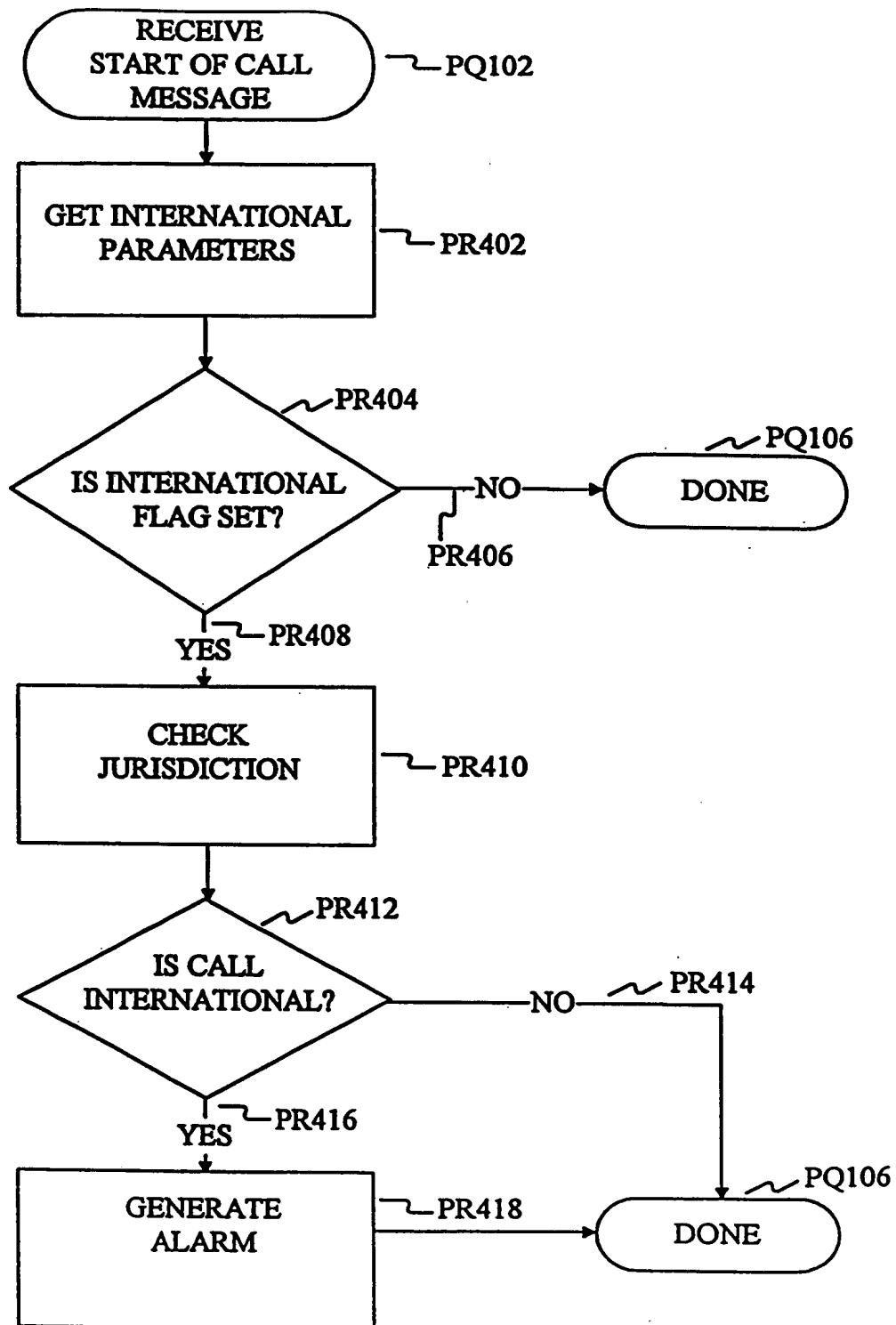


FIG 189

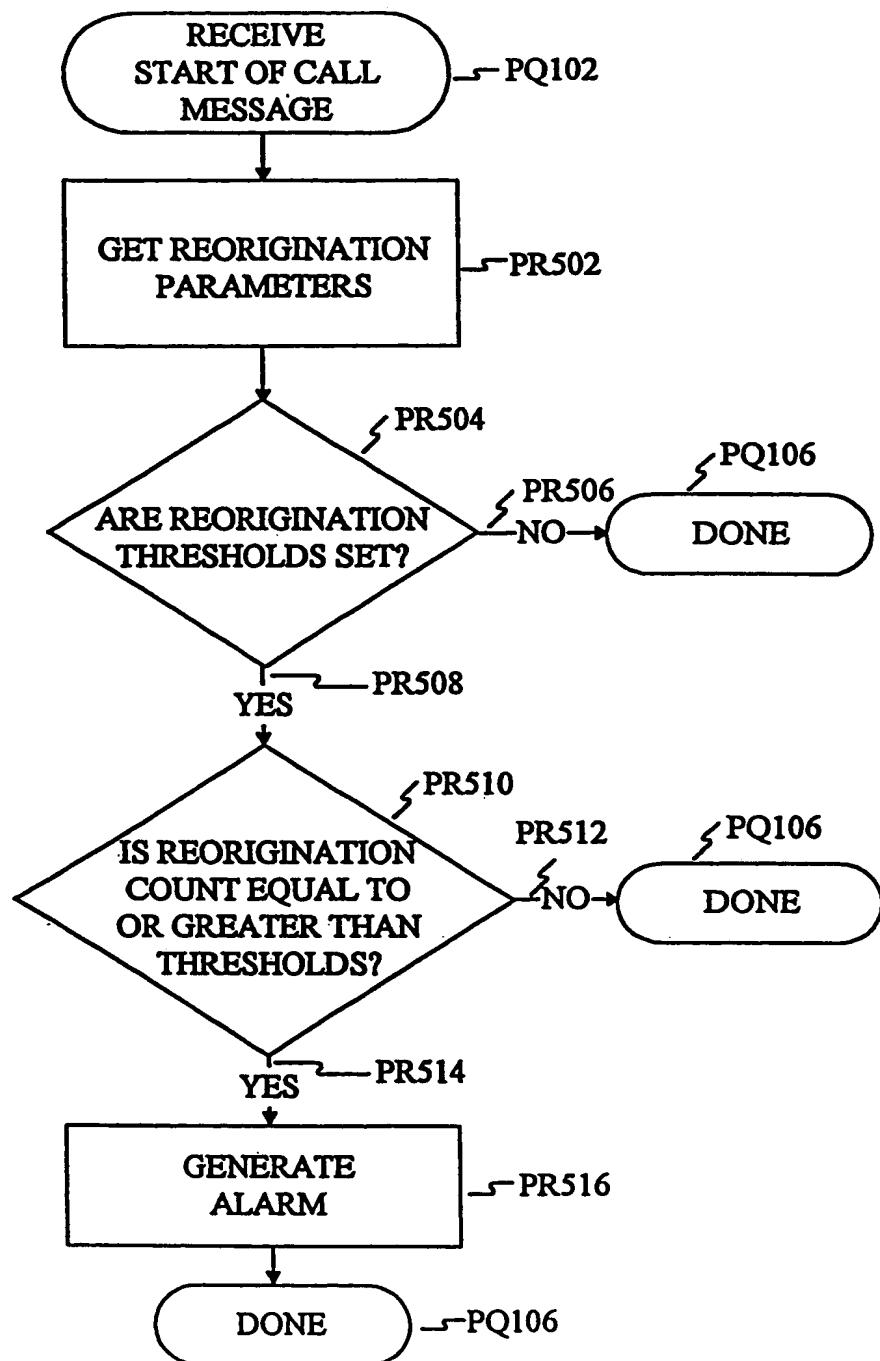


FIG 190

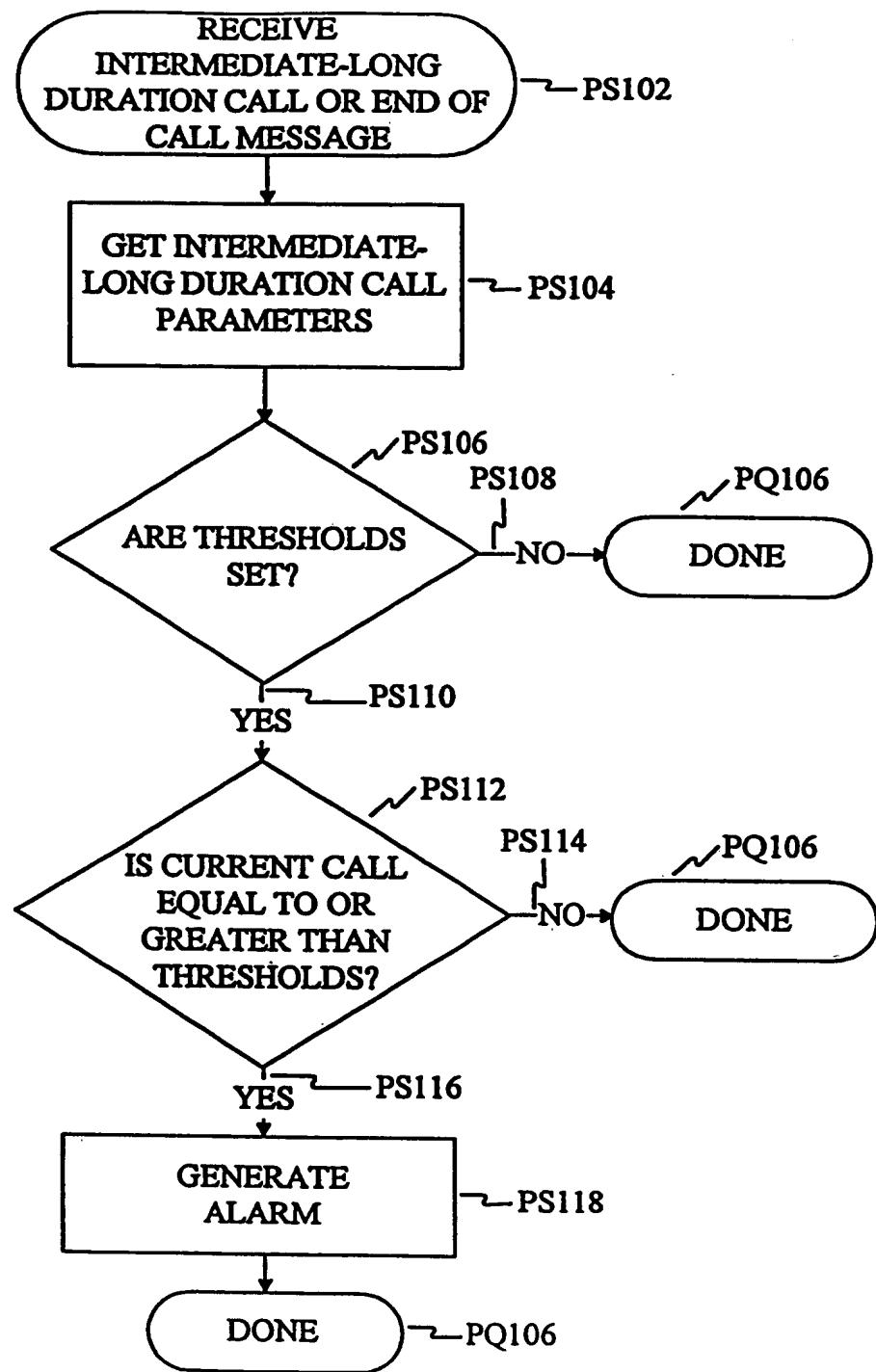


FIG 191

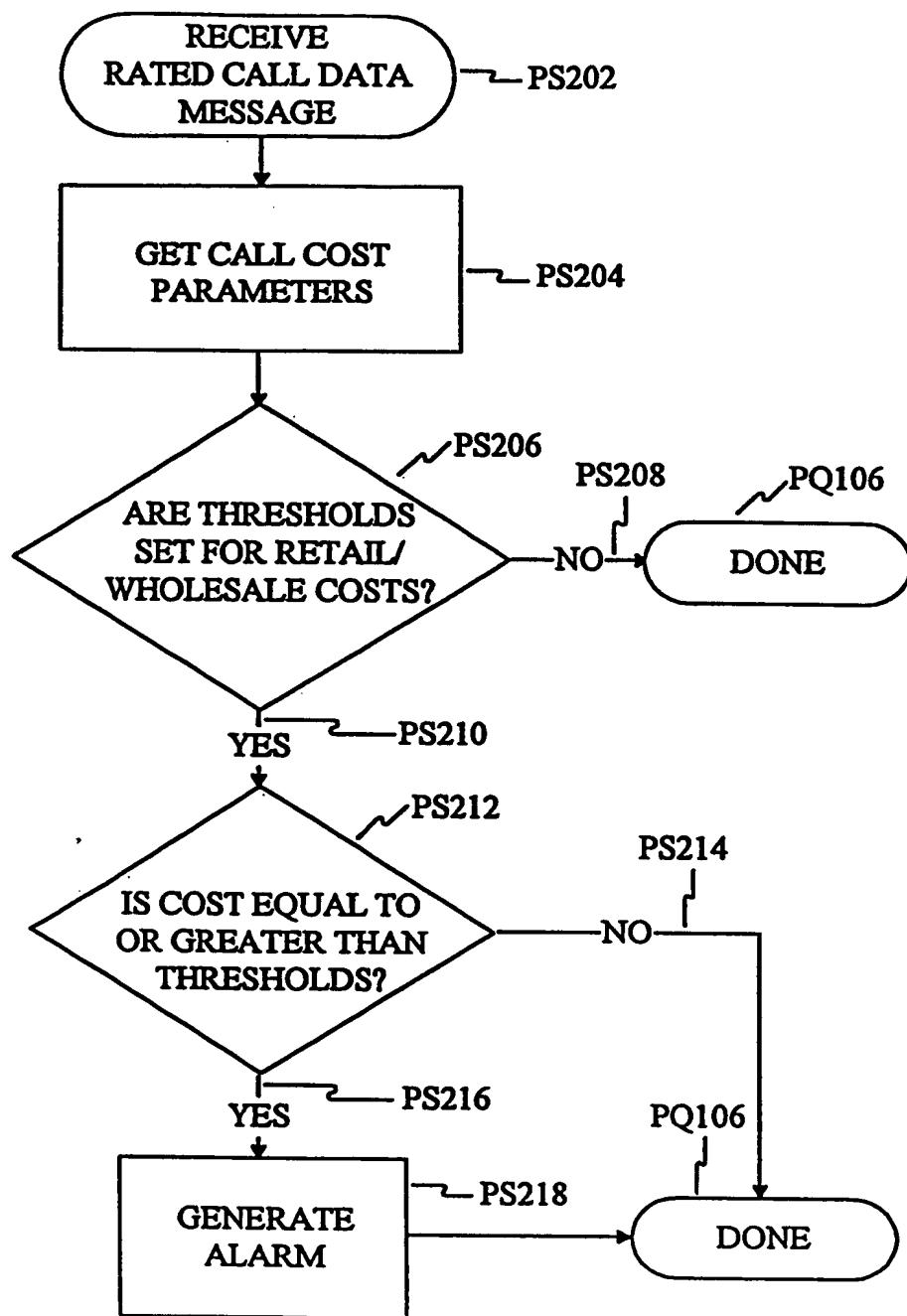


FIG 192

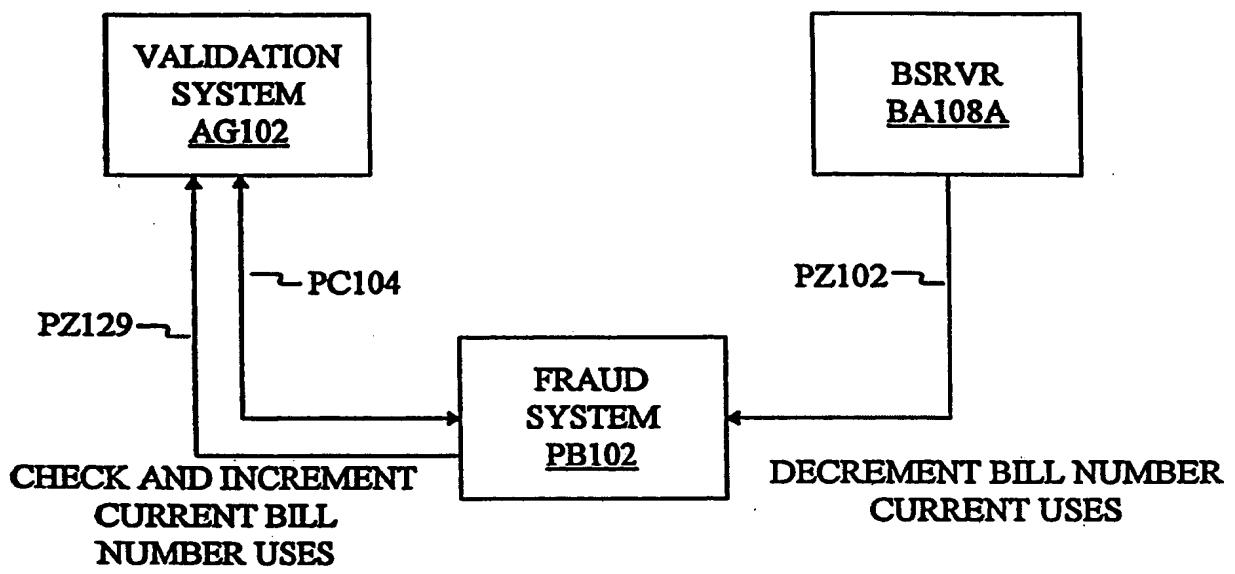


FIG 193

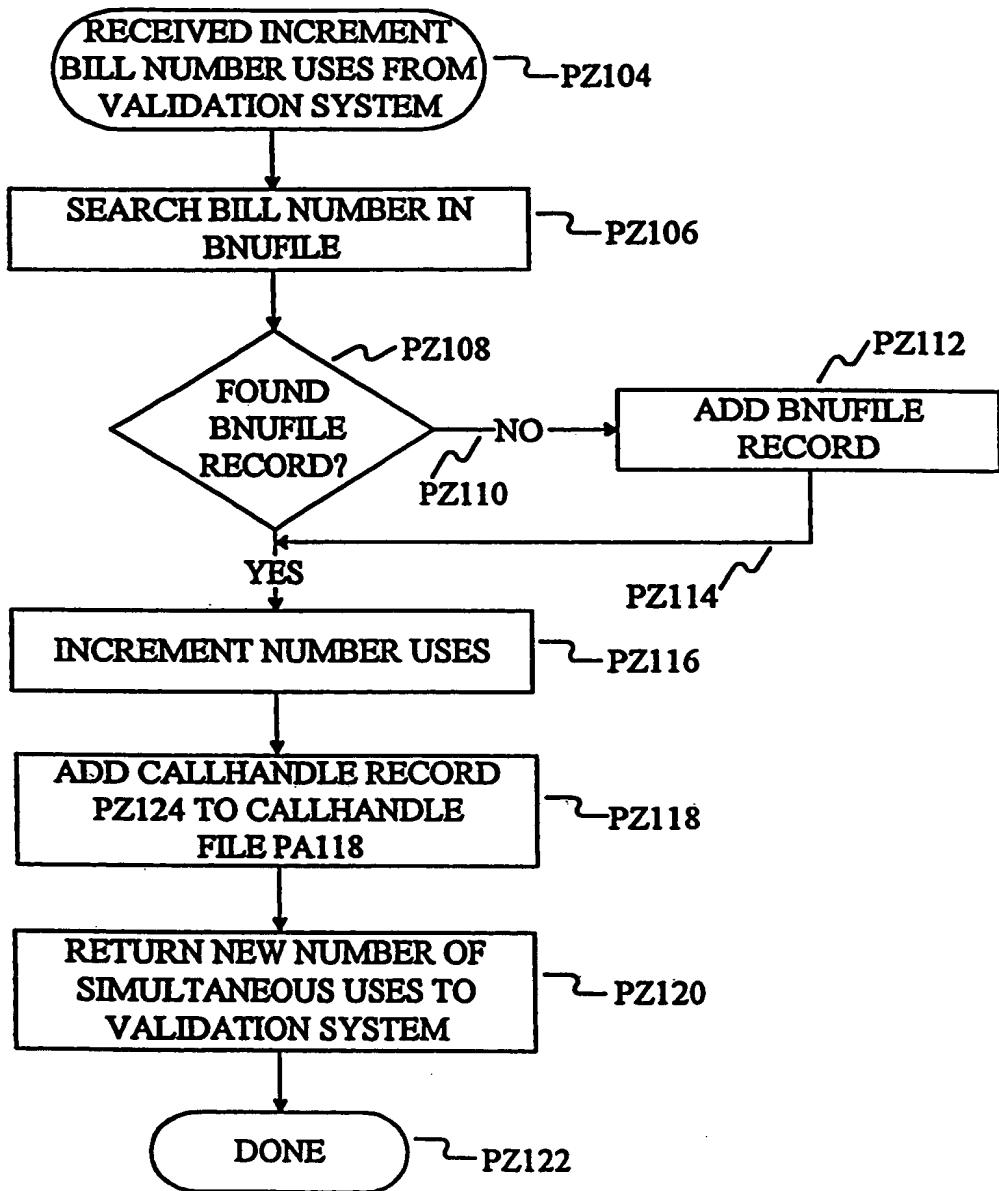


FIG 194

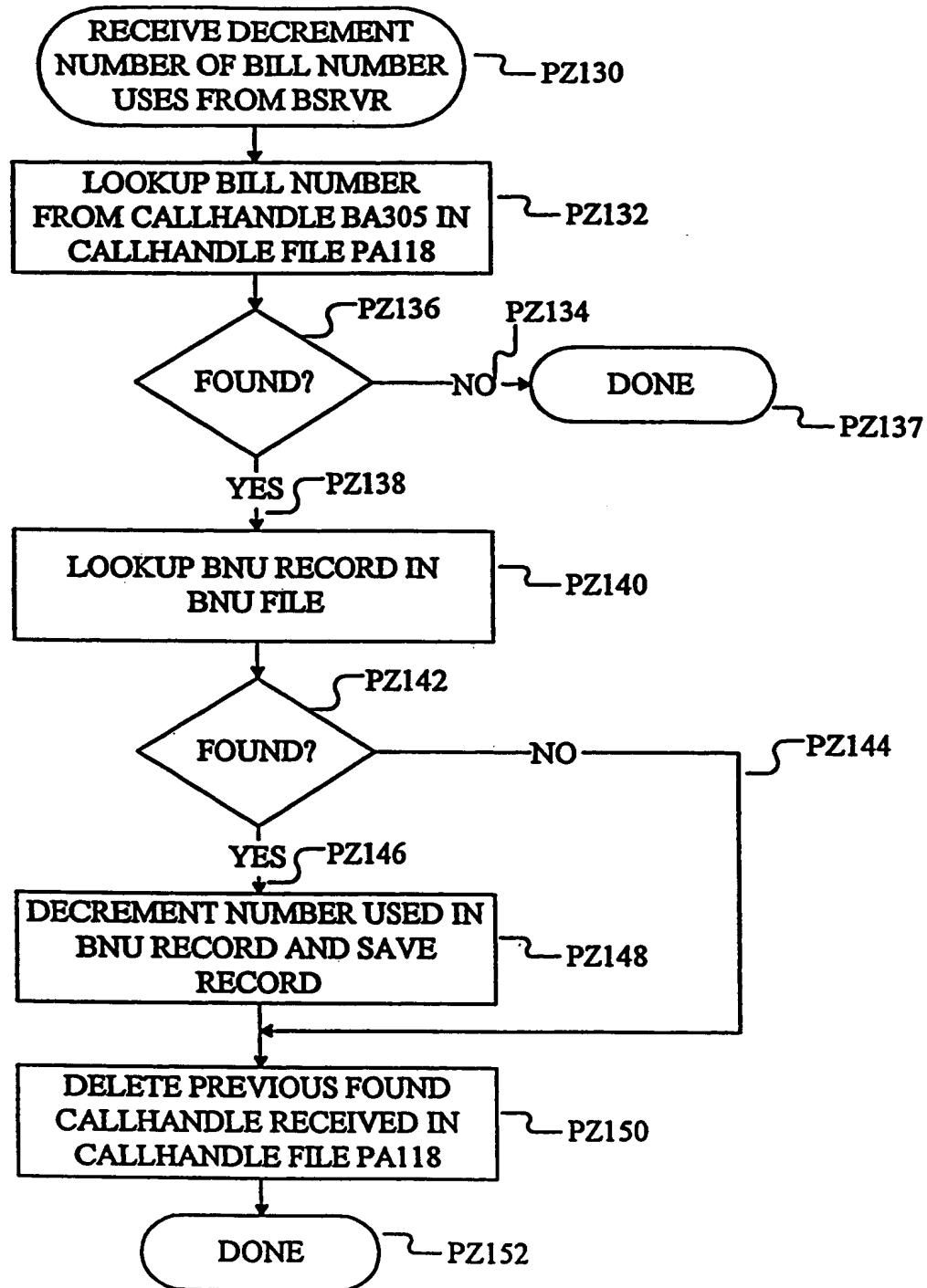


FIG 195

ALARM THRESHOLDS DETAIL INFO

THRESHOLDS KEY 0

TEXT DESCRIPTION:

| ALARMS WILL BE GENERATED IF: | ALARMS DURMS | TONES FRQHZ |
|---|--------------|--------------------------|
| 0 OR MORE BILLING NUMBER HITS IN 0 MIN | 0 | 0 |
| 0 OR MORE BILLING NUMBER HITS IN 0 MIN | 0 | 0 |
| 0 OR MORE CALLS/BILLING NUMBER WITH DIFF ANI IN 0 MIN | 0 | 0 |
| 0 OR MORE CALLS/BILLING NUMBER WITH DIFF NXX IN 0 MIN | 0 | 0 |
| 0 OR MORE CALLS/BILLING NUMBER WITH DIFF NPA IN 0 MIN | 0 | 0 |
| 0 OR MORE CURRENT ACTIVE CALLS WITH SAME BILLING NUMBER | 0 | 0 |
| 0 COMPLETED CALL EXCEEDED 0 MIN | 0 | 0 |
| <input type="checkbox"/> CALL IS INTERNATIONAL | 0 | 0 |
| <input type="checkbox"/> CURRENT ACTIVE CALL EXCEEDS BILLING SERVER WARNING LEVEL | 0 | 0 |
| <input type="checkbox"/> COMPLETED CALL EXCEEDED WHOLESALE COST OF DOLLARS | 0 | 0 |
| <input type="checkbox"/> COMPLETED CALL EXCEEDED RETAIL COST OF DOLLARS | 0 | 0 |
| <input type="checkbox"/> REORIGINATIONS MADE EXCEEDED 0 | 0 | 0 |
| <input type="checkbox"/> ORIGINATING ANI IS HOT | 0 | 0 |
| <input type="checkbox"/> CALLED NUMBER IS HOT | 0 | 0 |
| [F1 INSERT] | [F2 SEARCH] | [F3 DELETE] [ESC CANCEL] |

FIG 196

| ALARM THRESHOLDS DETAIL INFO | | | |
|------------------------------|----------------------------------|------------------------------|--------------|
| TEXT DESCRIPTION: | | ALARMS WILL BE GENERATED IF: | |
| | THRESHOLDS KEY 0 | ALARMS DURMS | TONES FREQHZ |
| 0 | [OR MORE FBNS ON ORIG NUMBER IN] | 0 MIN | 0 0 |
| 0 | [OR MORE FBNS ON ORIG NUMBER IN] | 0 MIN | 0 0 |
| 0 | [OR MORE FBNS ON TERM NUMBER IN] | 0 MIN | 0 0 |
| 0 | [OR MORE FBNS ON TERM NUMBER IN] | 0 MIN | 0 0 |
| [] | [ORIG NUMBER IS HOT] | 0 MIN | 0 0 |
| [] | [TERM NUMBER IS HOT] | 0 MIN | 0 0 |
| [F1 INSERT] | [F2 SEARCH] | [F3 DELETE] | [ESC CANCEL] |

FIG 196A

BILLING NUMBER DETAIL INFO

BILLING METHOD: 800 NUMBER

BILLING NUMBER:

THRESHOLDS KEY: 0

[] DON'T USE GLOBAL DEFAULT THRESHS

CURRENT USES:

[F1 INSERT] [F2 SEARCH] [F3 DELETE] [ESC CANCEL]

FIG 197

| | | |
|-----------------------------|----------|----------|
| [F1] SEARCH BIRS FROM TIME | 06/15/93 | 15:00:00 |
| [F2] SEARCH BIRS FROM BIRID | 0 | |

BIRID

LINK CONNECT TIME

[ESC CANCEL]

FIG 198

ALARMS SEARCH FROM 06/14/93 00:00:00

ALARM TYPE TIME BILLNUM TYPE BILLING NUMBER

[F2 SEARCH]

[ESC CANCEL]

FIG 199

| TIME TUE JUNE 15 09:56:01 | | FRAUD MONITOR | | VER 01.01 | |
|---------------------------|----------------------|----------------------|---------------|----------------------|-----------------|
| | | BNU ALARM STATUS | | TOT RCVD 23551 | |
| ALARM DETAIL INFO | | | | | |
| ALARM TYPE: | BIRD | FRAUD SHORT BIR INFO | 402666445 | 0 | JUN 14 21:25:33 |
| BILL METHOD: | LINKUSA CONNECT TIME | 6/14 20:46:22 | 0:39:18 | BIRDID: [402666445] | |
| BILLING NUM: | CALL DURATION | | | ESC | |
| 39 MIN EXCEEDI | BILL METHOD | | | 111111 | |
| | BILL NUMBER | | | 201451111 | |
| | ORIGINATING ANI | | | 712551111 | |
| | CALLED NUMBER | | | 8008641486 | |
| | ACCESS NUMBER | | | [BNUTHRS] | |
| | CALL JUR | | | INTERSTATE INTERLATA | |
| | CONSOLE NUMBER | | | 1111 | |
| | REORIGINATIONS MADE | | | | |
| | FAILED BILL NU | | 5 | | |
| | FNB HOT TERM | | 300 | | |
| | FNB HOT ORIG | | YES | | |
| | | | 5.85 | | |
| | | | 6.30 | | |
| | THEIR CONNECT TIME | | 6:14 21:46:38 | UTE:OFF=EXIT= | |
| | CALL ACTIVE | | NO | | |
| | | | <ESC> CANCEL | | |

FIG 200

FIG 201

| ALARM DETAIL INFO | | | |
|-----------------------------------|------------------|--------------------|-----------------|
| ALARM TYPE: | CALL DURATION | ALARM TIME | JUN 14 21:25:33 |
| BILL METHOD: | ESC | THRESHS KEY | 0 |
| BILLING NUM: | 8008614851234567 | BIRID: [402666445] | |
| 39 MIN EXCEEDING THRESH OF 30 MIN | | | |
| <ESC> CANCEL | | | |

FRAUD SHORT BIR INFO

| | |
|-----------------------------|----------------------|
| BIRID | 402666445 |
| LINKUSA CONNECT TIME | 6/1420:46:22 |
| CALL DURATION | 0:39:18 |
| BILL METHOD | PCC |
| BILL NUMBER | 1111111 |
| ORIGINATING ANI | 2014551111 |
| CALLED NUMBER | 7125551111 |
| ACCESS NUMBER | 8008641486 |
| CALL JUR | INTERSTATE INTERLATA |
| CONSOLE NUMBER | 1111 |
| REORIGINATIONS MADE | 5 |
| GREENWICH MIN OFFSET | 300 |
| DAYLIGHT OBSERVED | YES |
| WHOLESALE COST | 585 |
| RETAIL COST | 630 |
| THEIR CONNECT TIME | 6/14 21:46:38 |
| CALL ACTIVE | NO |

<ESC> CANCEL

FIG 202

TIME TUE JUNE 15 09:56:01 BNU ALARM STATUS LOGGED IN TOT RCV'D 23551
DURATION 1 DAYS 01:45:18 FBN ALARM STATUS LOGGED IN TOT SENT 23475

BILLED NUMBER USAGE ALARMS

| ALARM TYPE | TIME | BILLNUM TYPE | BILLING NUMBER |
|---------------|----------|--------------|-------------------|
| OPEN SIM | 19:46:33 | 800 NUMBER | 7005555465 |
| BILLNUM USAGE | 19:47:22 | LEC CARD | 31936312341234 |
| CALL DURATION | 19:47:24 | LEC CARD | 31936598769876 |
| ORIG NPA | 19:48:22 | PCC | 80086414851234567 |
| INTERNATIONAL | 19:48:33 | PCC | 80086414851234567 |
| OPEN SIM | 19:48:34 | PCC | 80086414851234567 |

[BNU ALRMS] [BIRS] == FAILED BILLED NUMBER ALARMS == [BILLNUMS] [BNUTHRS]
ALARM TYPE TIME NUMBER TYPE NUMBER
FBN ORIG USAGE 00:28:00 ORIG ANI 3193651234
FAILED BILL NUM 00:29:30 ORIG ANI 3193651234
FNB HOT TERM 00:30:00 TERM NUM 7083331111
FNB HOT ORIG 00:31:00 ORIG ANI 3192222222

= [FBN ALRMS] = [FBNS] = [FBN NUMS] = [FBN THRS] = [REPORTS] = [MUTE OFF] = [EXIT] =

FIG 203

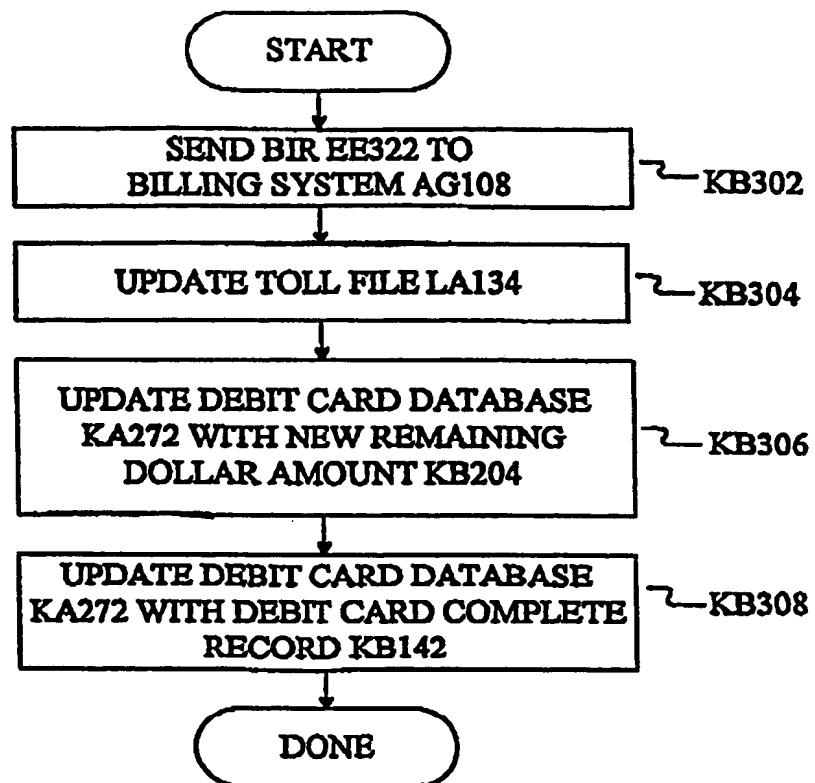


FIG 204

ψ VA100

| | | | |
|------------|----------------------|------|--------------|
| MARK | LINKUSA JIM MOORE | WAIT | 07:21:42 AM |
| SCRIPT | | | <u>VA104</u> |
| INFO | | TERM | <u>VA108</u> |
| CALL TYPE: | | | <u>VA106</u> |
| | | | |
| <F1> | <F2> | <F3> | <u>VA114</u> |
| | | | <F9> |

FIG 205

| MARK | LINKUSA | LIVE | 07.22.29 AM |
|---|--|---|------------------|
| | JM MOORE | ORIG | |
| MAY I HAVE THE AREA CODE AND NUMBER YOU ARE CALLING? | DURATION LOCATION LOC TIME CARRIER NAME PHONE CITY | 00:00:20 DIR ASST, IA 07:22:01 ABC SERVICES MARY SMITH 3193637570 PERKINS, IA <u>VA104</u> | |
| VA102 | INFO | TERM | |
| CALL TYPE: LINKUSA ESC BILLING NUMBER: 1234567 CALLED NUMBER: | NAME PHONE CITY TIME DURATION | | |
| | VA106 | VA108 | |
| <F1 HELP> | <F2 LOGOUT> | <F3 MUTE> | <F4 FEATURE> |
| | | | <F8 TRANSFER> |
| | | | <F9 NOTE> |
| | | | <F11 UTILITY> |
| | | | VA114 |

FIG 206

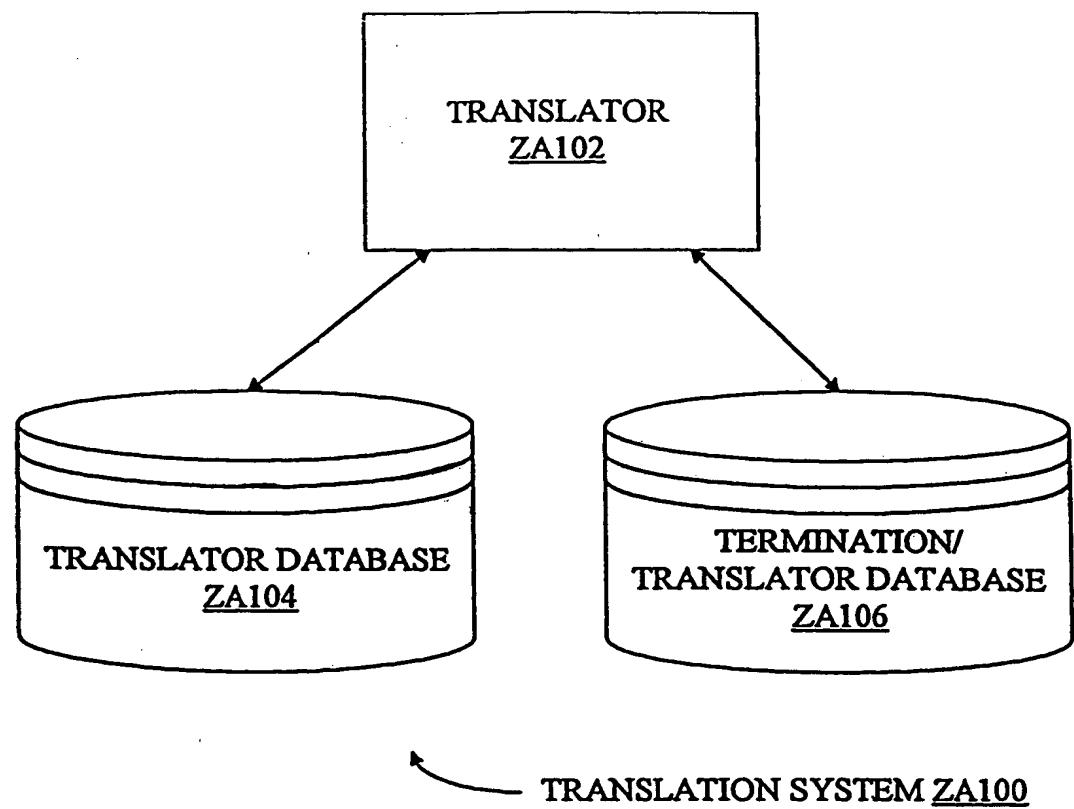


FIG 207